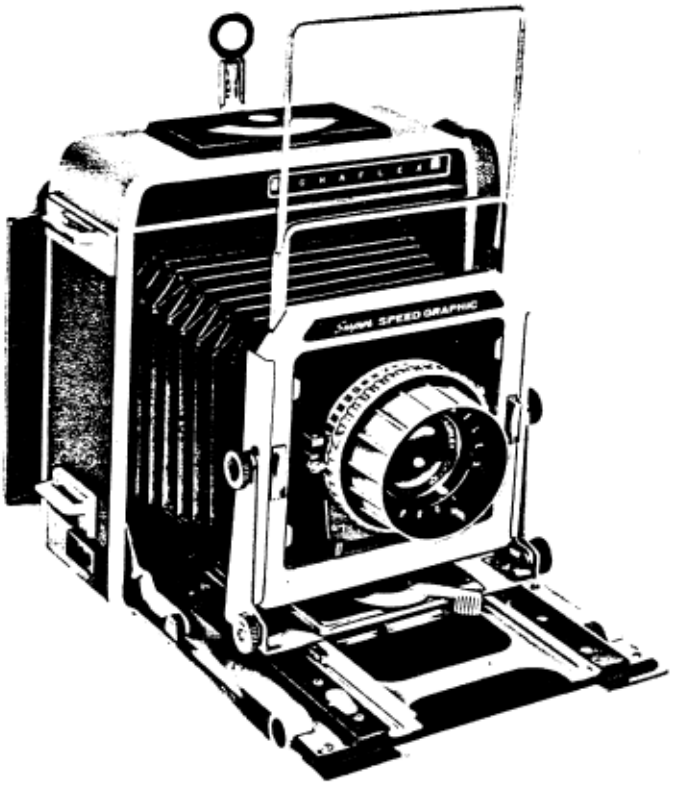
SECTION 8

SUPER GRAPHIC and SUPER SPEED GRAPHIC®



SERVICE INSTRUCTIONS and PARTS CATALOG

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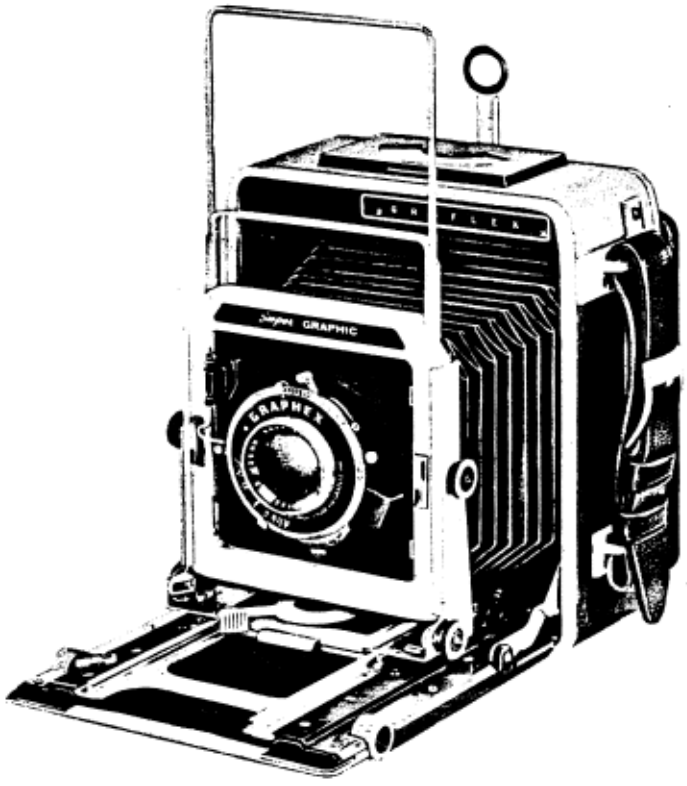

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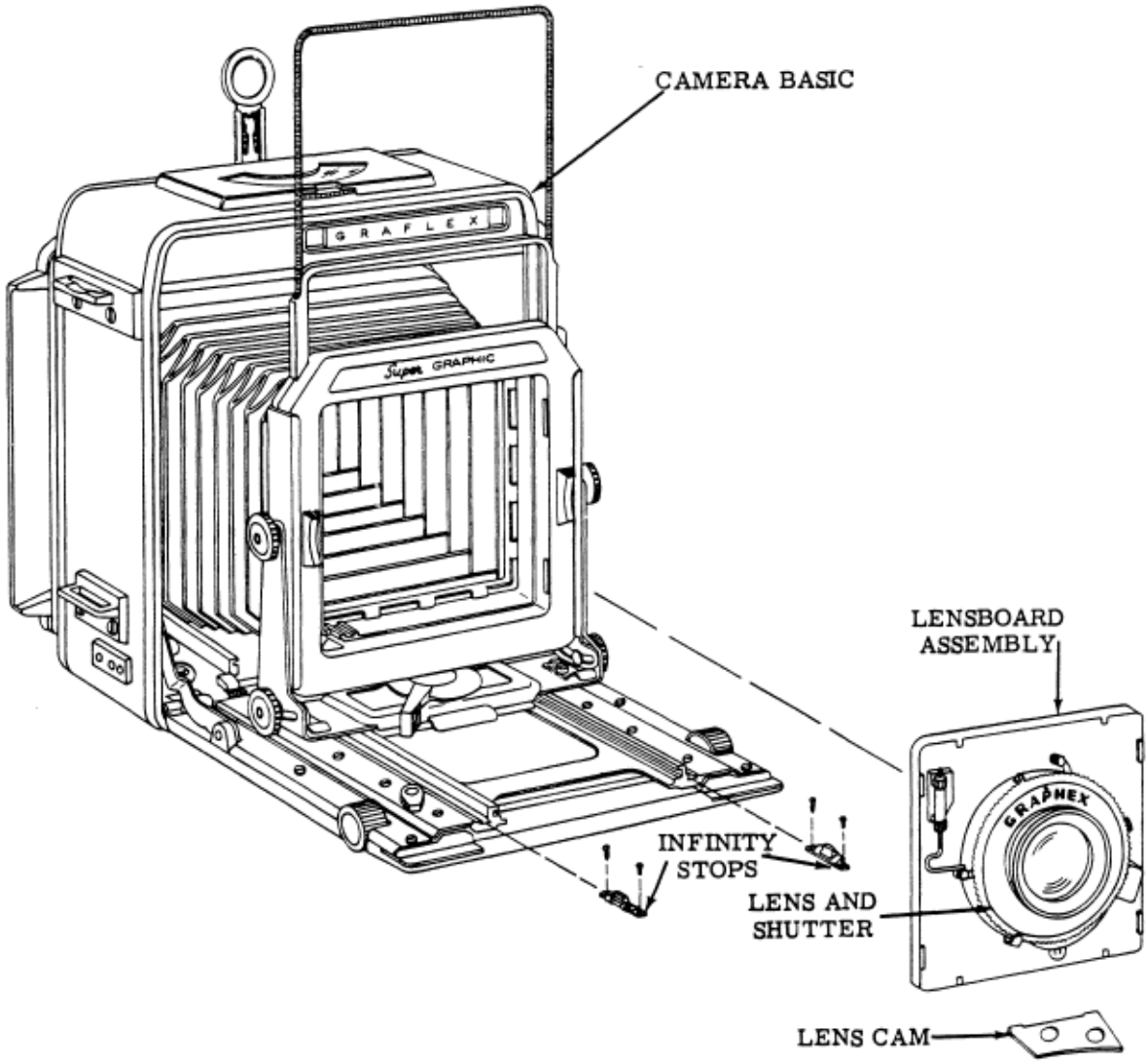


Figure 1. CAMERA COMPLETE

INTRODUCTION

This section on the Graflex Service Parts Manual covers the Service Instructions and Parts List for the Super Graphic and Super Speed Graphic Cameras. The text and illustrations are based on the Super Graphic Camera. The differences between the Super Graphic and the Super Speed Graphic are clearly described in the Parts List.

A. CAMERA COMPLETE

The Super Graphic Camera (Figure 1) includes a camera basic, standard shutter (with lens) mounted in a Super Graphic Lensboard Assembly, matching lens cam and a set of infinity stops to match the focal length of the lens.

The Super Speed Graphic Camera is identical to the Super Graphic except, the Super Speed Graphic is equipped with a Graflex 1000 Shutter. The Graflex 1000 Shutter does not require a lensboard for mounting.

NOTE: The lens cam is selected after the lens has been optically measured for actual focal length (lens travel).

B. OPTICAL MEASUREMENT OF LENS TRAVEL

Optical measurements are best determined through the use of a collimator with an accurate measuring device. Lens is set up and focused on theoretical infinity and the measuring device set for 0. Lens movement is measured (to nearest .001 of an inch) from infinity to the following near distance:

Lens Focal Length	Near Distance (target to film plane)
3 to 7 inch	4 feet
7 to 15 inch	10 feet

At least three different readings should be taken and recorded to insure that a satisfactory figure has been obtained. If equipment is not available, send lens and shutter to nearest Graflex Service Department for collimation and selection of cam.

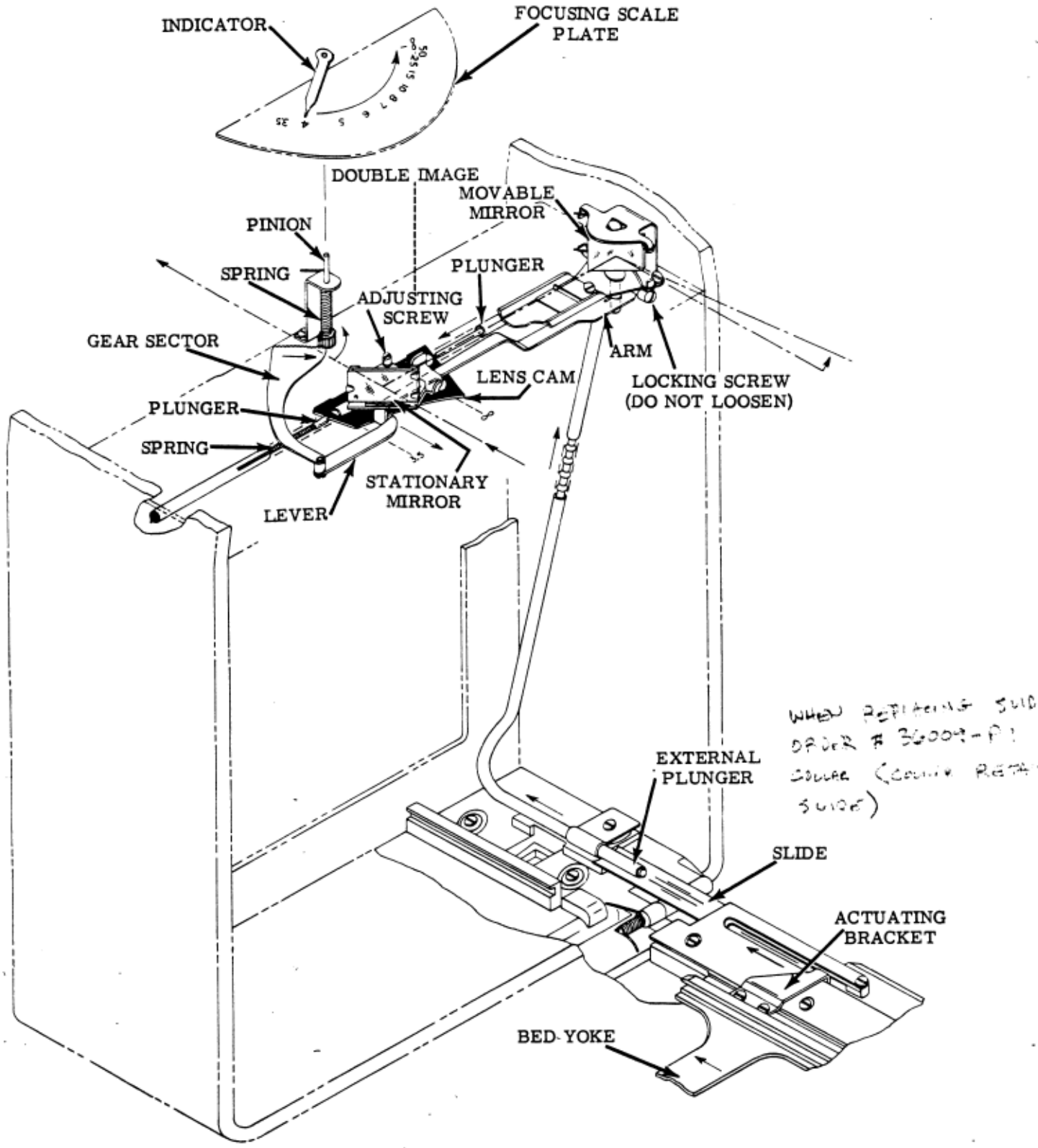


Figure 2. RANGEFINDER OPERATION

C. RANGEFINDER

The rangefinder is mounted in a drawer type housing, located under the top section of the camera. Once the rangefinder is adjusted, it can be used with a wide variety of lenses through the use of lens cams. Lenses may vary in focal length from wide angle through telephoto.

D. RANGEFINDER OPERATION (Figure 2)

To adjust the rangefinder, it is important to understand its operation. A bracket on the left side of the bed yoke engages a slide. The slide is assembled to a pin located on the underside of an external plunger. The slide and plunger are part of the rangefinder tube assembly. The external plunger transmits its motion through a column of balls and spacers inside the rangefinder tube to an internal plunger that pushes the lens cam to the right. The lens cam presses against a spring loaded plunger supplying force to return the lens cam to its original position when the yoke is moved outward.

The bed yoke is moved in or out for focusing. The rangefinder arm rides on the lens cam; motion of the arm, caused by the cam, is transmitted to the movable mirror shaft. The rangefinder lever also rides against the formed end of the rangefinder arm transmitting its motion to a gear sector which meshes with a pinion. This linkage is spring loaded against the formed end on the rangefinder arm by a coil spring wound to this pinion shaft. The shaft of the pinion protrudes through the top of the camera. An indicator is pressed onto the pinion shaft when rangefinder infinity has been established.

The image reflected off the movable mirror can be brought to coincide with the image seen through the stationary semi-transparent mirror by rotating the movable mirror. When these two images are in coincidence at the same time that the object image seen through the lens is in sharp focus on the ground glass, the rangefinder and camera lens are in complete synchronization.

E. RANGEFINDER INFINITY

Rangefinder infinity is determined through the use of a collimator and using theoretical infinity. Special optical equipment and gages are required for locating and alignment of the movable mirror. When these adjustments have been accomplished, the locking screw on the rangefinder arm is tightened to maintain this fixed infinity setting. This locking screw should not be loosened. See Par. K for rangefinders requiring fixed infinity setting.

F. DOUBLE IMAGE ADJUSTMENT

1. Remove battery cover and batteries.
2. Remove clip and locate the lock spring on roof of battery compartment and swing toward rear of camera. This will release the focusing scale cover assembly.
3. Remove the exposure guide and exposure guide spring. When performing this operation be careful not to bend or twist the focusing scale indicator on the pinion shaft, otherwise it will be necessary to replace the indicator.
4. Remove the lens cam; this in turn will allow the focusing scale indicator to swing clear of the focusing scale plate.
5. Replace the lens cam in slot in rangefinder tube.
6. With a screwdriver, locate slot in adjusting screw (located under hole) in uncovered portion of the camera body. To raise image, turn adjusting screw counterclockwise. To lower image, turn adjusting screw clockwise.

G. ACTUATING BRACKET ADJUSTMENT

Whenever the rangefinder housing has been removed from the camera or the actuating bracket is being replaced or repositioned, the following procedure should be followed:

1. Insert lens cam in cam slot in rangefinder tube assembly and move the yoke inward and outward several times to make sure lens cam is in position and functions properly.
2. Focus rangefinder on infinity target over 5000 ft. and rack the bed yoke inward until it is within 0.040 ±.010 inch from the yoke stop and lock bed yoke in this position.

NOTE: It is important that 0.040 ±.010 dimension be maintained in order that all focusing may be accomplished with a forward movement of the bed yoke.

Slide the actuating bracket on the bed yoke until the formed down portion of actuating bracket engages the slide. Focus rangefinder on infinity target and simultaneously move actuating bracket on bed yoke until rangefinder focus is in coincidence with the infinity target. Secure actuating bracket in this position using two screws. If rangefinder housing has been removed, press new indicator in position on pinion shaft so that indicator will point to infinity (∞) location on focusing scale plate. Apply small amount of M373 Bond Master adhesive in cup portion of indicator to give added support.

3. Assemble the front standard complete, if removed, and proceed with lens and rangefinder synchronization (Par. H).

H. RANGEFINDER AND LENS SYNCHRONIZATION

Use lensboard assembly (with lens) and lens cam which were originally fitted to the camera and proceed as follows:

1. Rack bed yoke outward and install lens cam in cam slot in rangefinder tube. Rack bed yoke inward and outward several times, making sure that cam is in position and functions properly.
2. Focus rangefinder on infinity target over 5000 ft. and check rangefinder infinity focus. Lock bed yoke in this position. The indicator on top of camera should point to infinity (∞) position on focusing scale plate. If necessary, make double image adjustment.
3. Position lensboard assembly (with lens) in front standard making sure lensboard is square in front frame and securely locked in place.
4. Pull front standard out to existing infinity stops and lock front standard in this position. Use a square to check squareness of front standard on bed yoke. Adjust if necessary.
5. Check ground glass focus of lens, using same target as in 2 above. If rangefinder and lens focus coincide; unlock bed yoke and rack forward to near distance of the lens used, lock bed yoke in this position and recheck coincidence. If in coincidence, proper rangefinder and lens are in complete synchronization.

RF ADJ: PUT LENS BACK INTO BODY SO THAT ACT. BRACKET SCR ARE ACCESSIBLE. RACK BD BACK TO ∞ STOP. ADJ BKT. FOR RF ∞ COINCIDENCE. PULL OUT LENS + ADJ FOR ∞ ON GROUND GLASS.

J. MULTIPLE LENS FITTING

Before additional lenses are fitted to the camera, it must be determined if original lensboard assembly (with lens) is in synchronization with the rangefinder.

1. Repeat Rangefinder and lens synchronization (Par. H).

2. Rack bed yoke outward and remove original lens cam and lensboard assembly (with lens) and insert lens cam for new lens to be fitted. Rack bed yoke inward and outward several times, making sure cam is in position and functions properly.

3. Rack bed yoke inward to infinity position of the rangefinder and lock bed yoke in this position. The indicator will point to infinity (∞) position on focusing scale plate.

4. Position new lensboard assembly (with lens) in front standard making sure lensboard is square and securely locked in place.

5. Tip down infinity stops (original) to permit free movement of the front standard on the bed yoke.

6. Focus new lens on infinity target over 5000 ft. and move front standard so that lens focuses a sharp infinity target on ground glass and lock front standard in this position. Use a square to check the squareness of front standard on bed yoke. Assemble two additional infinity stops in position.

7. Check ground glass focus of lens, using same target as in 6 above. If rangefinder and lens focus coincide, unlock bed yoke and rack forward to near distance of the lens used, lock bed yoke in this position and recheck coincidence. If in coincidence; proper rangefinder and new lens are in complete synchronization.

K. RANGEFINDER HOUSING EXCHANGE

Whenever the fixed infinity setting of the rangefinder needs to be established, it is recommended that the rangefinder housing assembly be removed from the camera and returned to the nearest Graflex Service Department. An alternate factory reconditioned rangefinder housing assembly will be returned (nominal charge) with rangefinder infinity and lever adjustments accomplished and ready for installation. See Par. S. 1. a thru j for removal of the rangefinder housing assembly.

L. RANGEFINDER TROUBLE SHOOTING CHART

The following table of potential troubles, causes and remedies, is supplied to expedite service of common difficulties.

NOTE: Repairs that involve the removal of the rangefinder housing assembly from the camera or an adjustment to the rangefinder actuating bracket, refer to Par. G.

TROUBLE	CAUSE	REMEDY
Indicator does not locate on infinity (∞) position on focusing scale plate.	Indicator loose on pinion shaft.	Replace.
	Gear Sector loose on its shaft.	Replace.
	Broken pinion spring, worn teeth on pinion or gear sector.	Replace.
With yoke racked all the way back, rangefinder will not come into coincidence at infinity.	Actuating bracket has shifted forward or is bent.	Adjust or replace. (see paragraph G)
Double image.	Stationary mirror out of height adjustment with movable mirror.	Adjust. (see paragraph F)
No superimposed image on stationary mirror.	Movable mirror broken, fallen off, or movable mirror shaft is out of position thus causing fixed infinity setting of rangefinder to be out of adjustment.	(see paragraph K)
Movable image travel is in diagonal direction instead of horizontal.	Springs supporting movable mirror shaft in position in V slot have become unhooked or broken.	Rehook or replace (providing movable mirror has not shifted and caused fixed infinity setting of rangefinder to be out of adjustment. (see paragraph K)

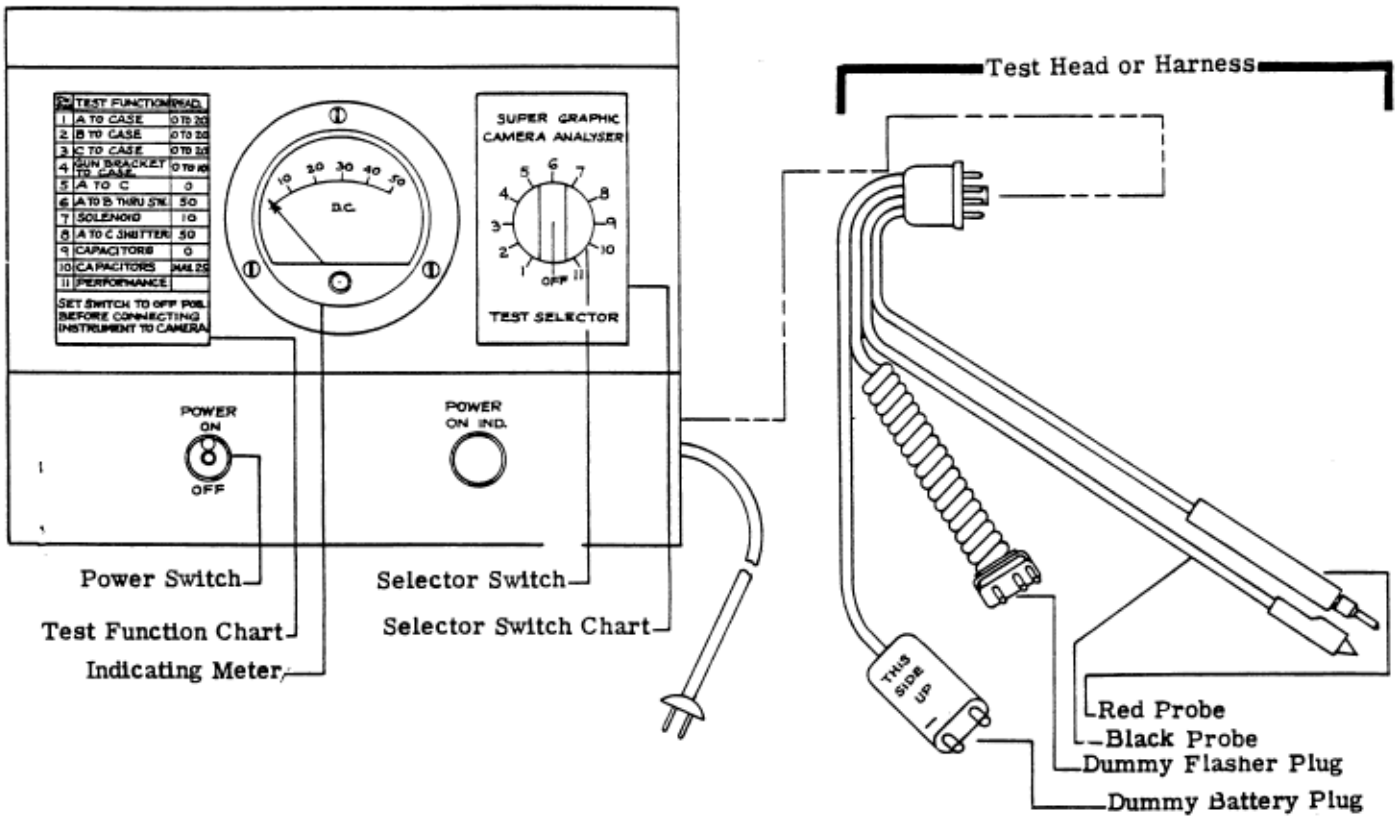


Figure 3. SUPER GRAPHIC ANALYZER

M. SERVICE EQUIPMENT

1. Super Graphic Analyzer (Figure 3)

2. A sensitive volt-ohm meter may also be used to check leakage or short circuit tests.

NOTE: Paragraphs N, P & Q and figures 3a thru 3j will supply information for construction, function and calibration of the Super Graphic Analyzer.

3. Miscellaneous tools, such as: soldering iron, pliers, screwdriver, etc.

4. For all soldered electrical connections, use a rosin flux core solder whose alloy is 50% tin and 50% lead, such as:

Kester #44	Kester Solder Co. Chicago 39, Illinois
Multicore Solder Ersin Flux	Multicore Sales, Inc. New York 13, New York

CAUTION: Never use an acid core solder or acid flux on electrical equipment.

N. SUPER GRAPHIC ANALYZER - GENERAL

The Super Graphic Analyzer is a special piece of testing equipment that includes provisions for checking all electrical functions of the camera. This equipment will help isolate trouble areas within the electrical circuit of the camera, with minimum time and effort. The test function chart, mounted on left side of the instrument, lists: switch positions, electrical circuit being tested, and indicator reading to be maintained at each switch position.

The Super Graphic Analyzer contains three sources of power supply, controlled by the selector switch as follows:

Positions 1 thru 5 - 500 volt power supply is used to measure high resistance leakage, open and short circuits.

Positions 6 thru 8 - 5 volt power supply is used to measure low resistance circuits and continuity.

Positions 9 and 10 - 45 volt power supply is used (simulating batteries normally used in camera) to test electrical leakage of capacitors.

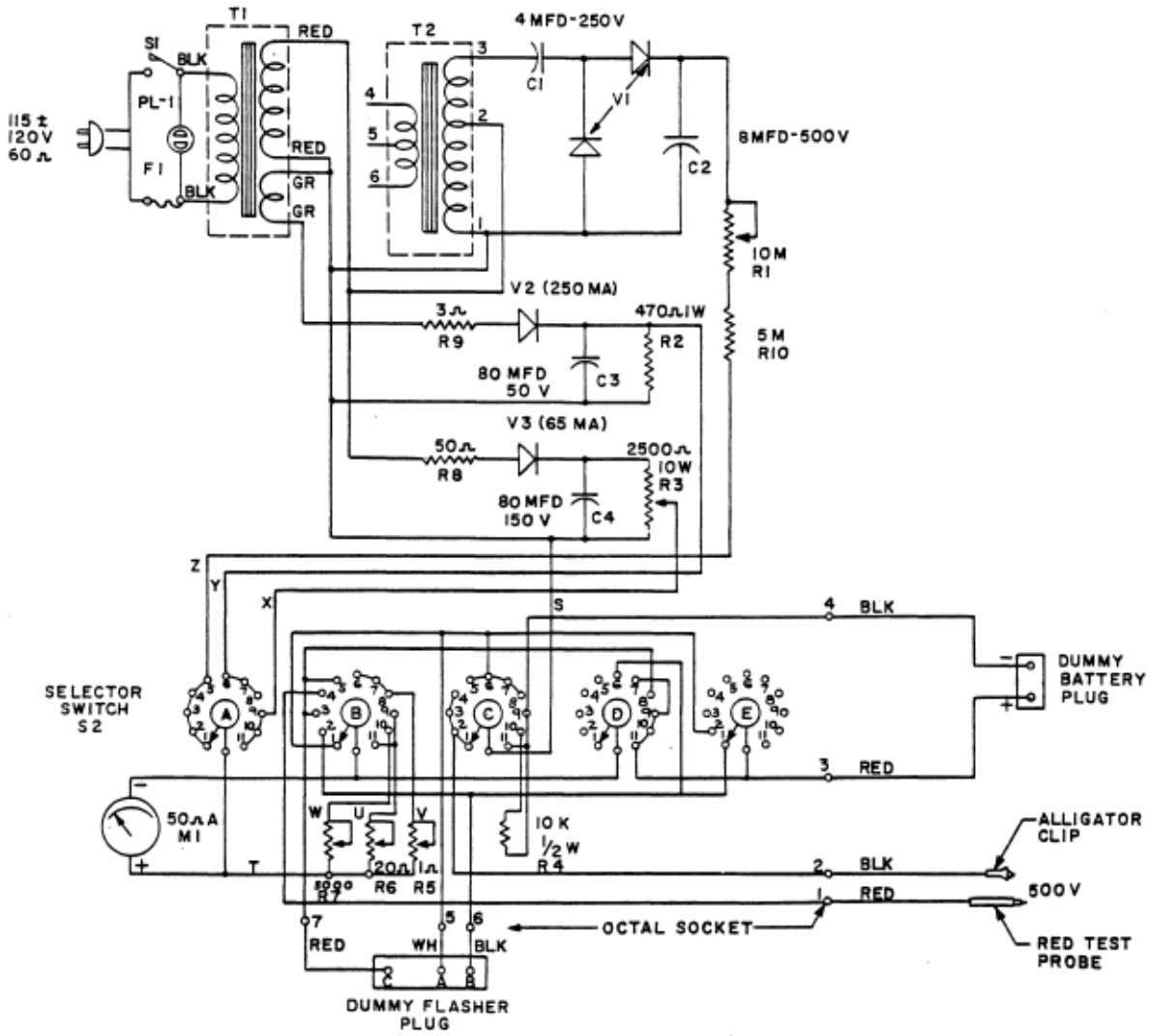


Figure 3A. SUPER GRAPHIC ANALYZER - SCHEMATIC DIAGRAM

Position 11 - The circuitry of the Super Graphic Analyzer is disconnected from the camera except for the 45 volt power supply (simulating batteries normally used in camera) to test overall camera performance.

Connection of the Super Graphic Analyzer to the camera is made through a test head or harness containing an octal plug that is inserted into an octal socket in rear of instrument.

CAUTION: The selector switch must always be in the OFF position when connecting the test head or harness to camera; otherwise, indicating meter in the instrument will be damaged.

P. SUPER GRAPHIC ANALYZER - MATERIALS

Ref.	Description	Qty.	Remarks
	Housing, Metal, Premier SFC-501, 8x10x8 5.45	1	Figure 3C
	Chassis, Premier, CH-404, 7x9x2 (Front)	1	Figure 3D 1.40
	Meter, Triplett #321-T, 50 microamperes 16.90 6.21	1	
S2	Switch, Centralab, Minature Type 2017 (5 sec., 5 pol. 12 pos.)	1	
S1	Switch, A.H & H Type 20994-EW (SPST) .57	1	
PL1	Socket, Pilot Lamp, Dialco Series 952208 Type 338 .75	1	
	Pilot Lamp, NE51 .21	1	
	Fuse Mounting, Buss Type HKP .32	1	
F1	Fuse, Buss Type MDL, 1 amp. .90	1	
	Cord, AC Power	1	
	Socket, Octal, Amphenol 77 M1P8 or equal .16	1	

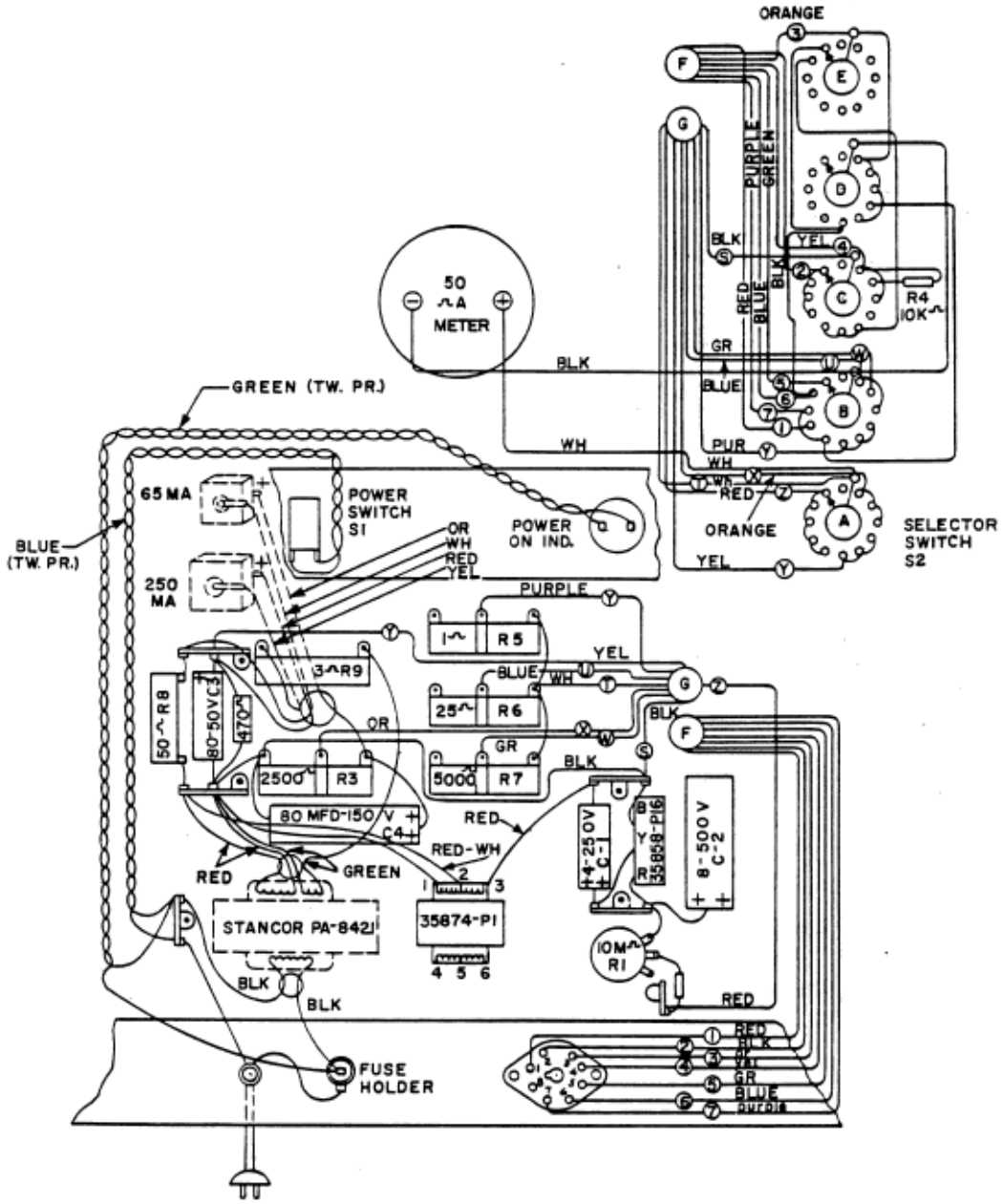


Figure 3B. SUPER GRAPHIC ANALYZER - WIRING DIAGRAM

Ref.	Description	Qty.	Remarks
	Plug, Octal, Amphenol 78-P F-8 or equal 34	1	
	Bracket for Transformer 35874-P1	1	Figure 3E
T1	Transformer, Stancor No. PA-8421 376	1	
T2	Transformer, Graflex P/N 35874-P1 445	1	
V3	Rectifier, Federal No. 1386 (65MA) 98	1	
V2	Rectifier, Federal No. 1236A-H (250-300MA) 162	1	
V1	Rectifier, Graflex P/N 35891 7-10	1	
C1	Capacitor, Electrolytic, Graflex P/N 35858-P15 (4mf-250v) 60	1	
C2	Capacitor, Electrolytic, C-D Type 850 (8mf-500v) 78	1	
C3	Capacitor, Electrolytic, Graflex P/N 36167 (80mf-50v) 84	1	
C4	Capacitor, Electrolytic, Graflex P/N 35569 (40mf-150v) 81	2	
R1	Potentiometer, 1RC Type 11-143 (10 megohm) 102	1	
R5	Resistor, Ohmite Dividohm Type 1001 (1 ohm, 10w) 114	1	
R6	Resistor, Ohmite Dividohm Type 1009 (25 ohm, 10w) 114	1	
R3	Resistor, Ohmite Dividohm Type 1028 (2500 ohm, 10w) 118	1	

Ref.	Description	Qty.	Remarks
R7	Resistor, Ohmite Dividohm Type 1033 (5000 ohm, 10w) 118	1	
R9	Resistor, Ohmite Brown Devil (3 ohms, 10w) 57	1	
R8	Resistor, Ohmite Brown Devil (50 ohms, 10w) 57	1	
R2	Resistor, Carbon (470 ohm, 1w, 10%)	1	
R10	Resistor, Carbon (5 megohm, 1/2w, 10%)	1	
R4	Resistor, Carbon (10K ohm, 1/2 w, 10%)	1	
	Test Probe, H. H. Smith Type 303, Solderless Red 33	1	
	Alligator Clip, Mueller Type 60 .08	1	
	Slip On Insulator, Mueller Type 62, Black. 07	1	
	Test Conductor, Belden Type 8899, Red (3 ft.)	1	
	Test Conductor, Belden Type 8899, Black (3 ft.)	1	
	Cord, 3 Conductor Coiled, Graflex Cat. No. 2802 (modified)	1	Figure 3F
	Dummy Battery Plug and component parts	1	Figure 3G
	Test Function Chart	1	Figure 3H
	Selector Switch Chart	1	Figure 3J
	Terminal Strip, Cinch Jones No. 52 843 .05 Smooth	3	
	Terminal Strip, Cinch Jones No. 52B 829 .05	1	
	Terminal Strip, Cinch Jones No. 53E 857 .05	1	
	Misc. Screws, Nuts, Lockwashers, Wire	AR	

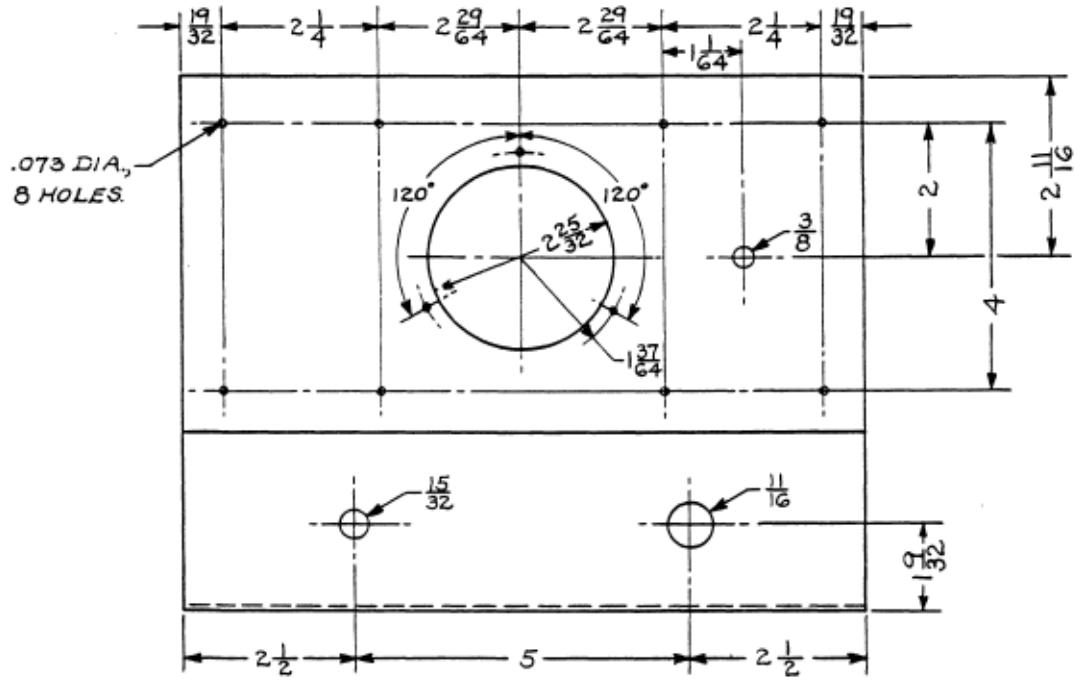


Figure 3C. HOUSING - MACHINED

ALL HOLES .1440 EXCEPT
AS NOTED

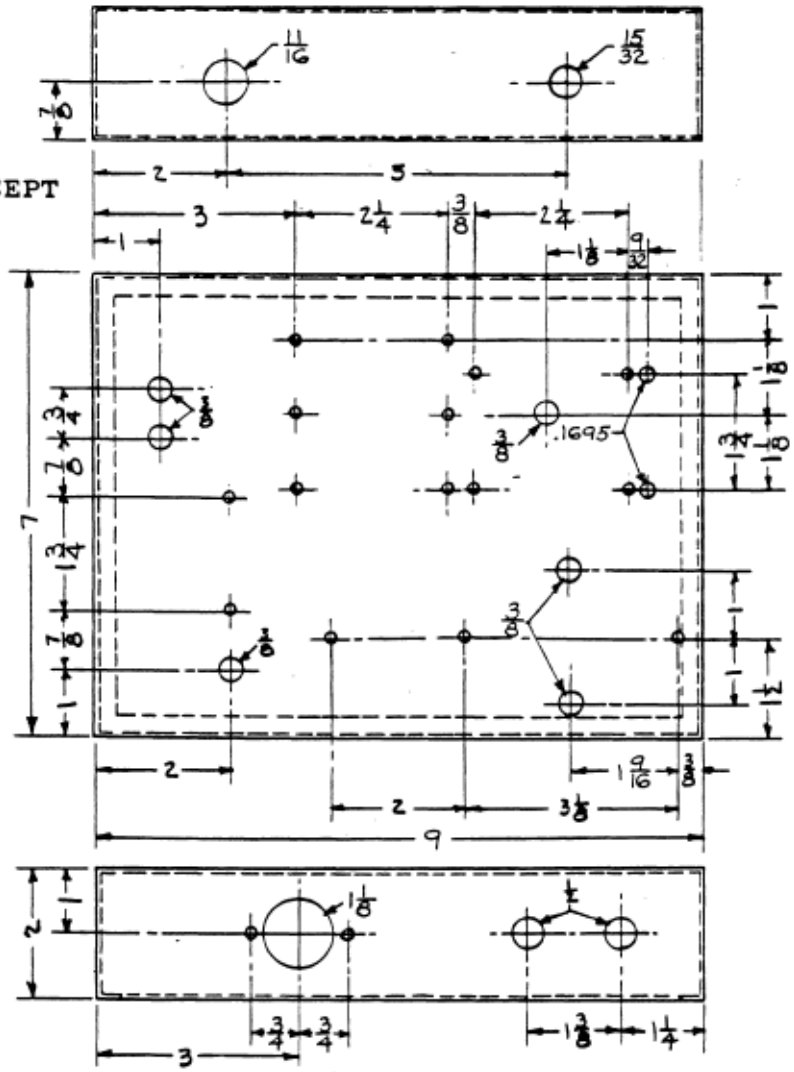
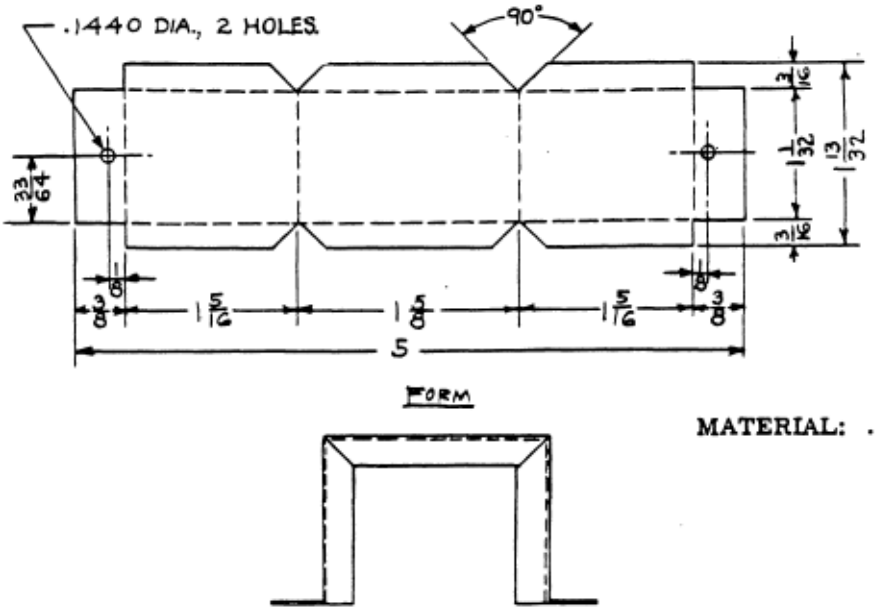


Figure 3D. CHASSIS - MACHINED



MATERIAL: .031 H.H. ALUM.

Figure 3E. BRACKET FOR TRANSFORMER

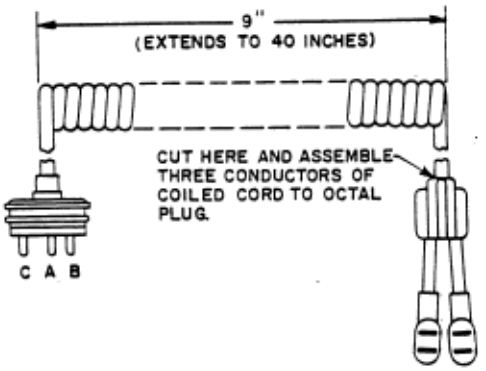


Figure 3F. CORD MODIFICATION

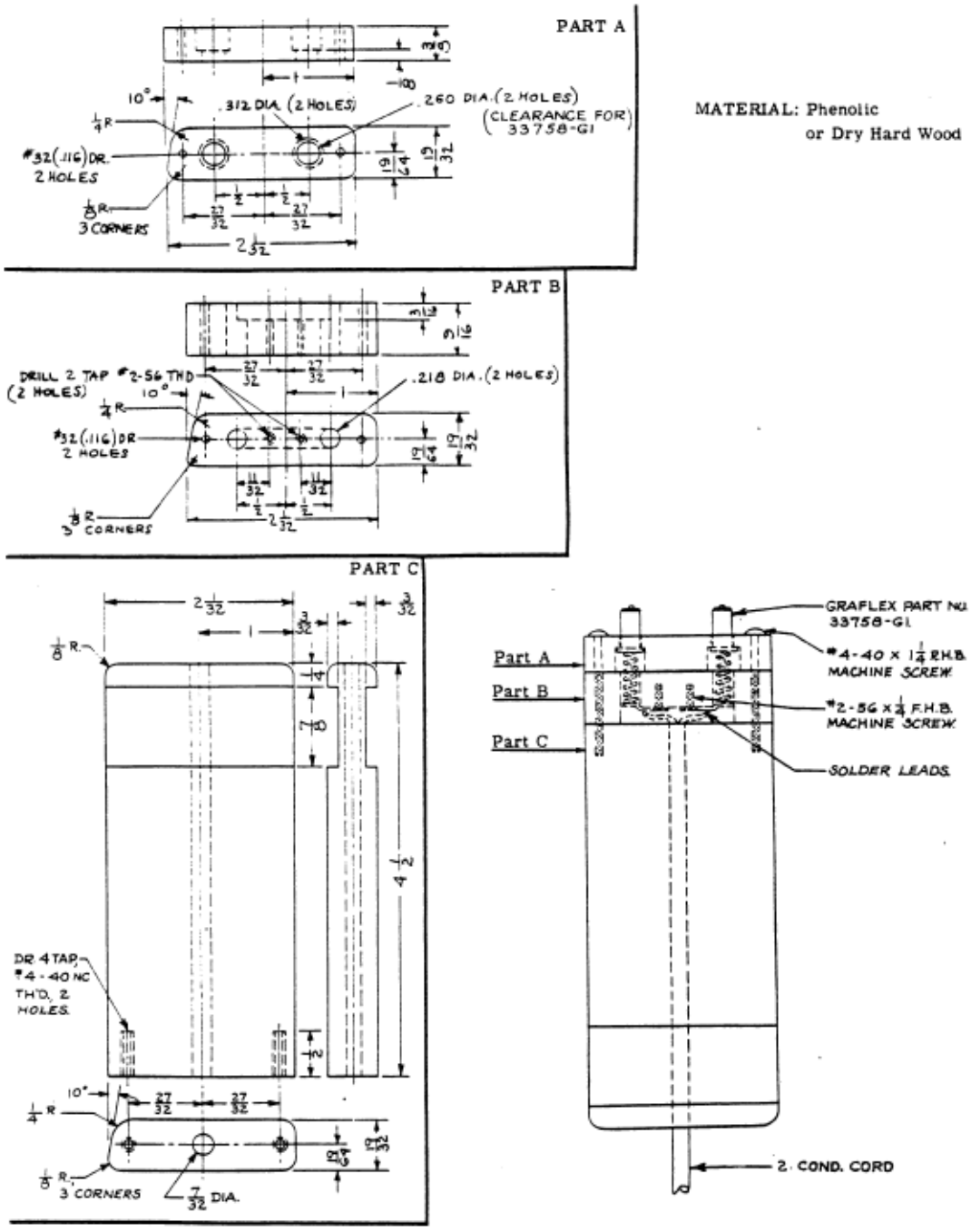
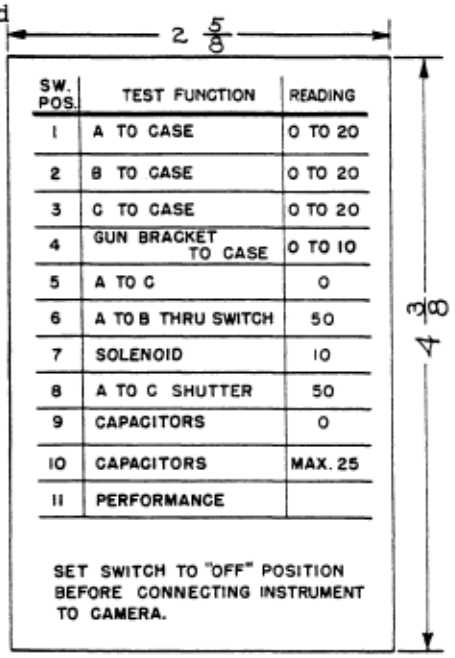


Figure 3G. DUMMY BATTERY PLUG

Material:
Bristolboard

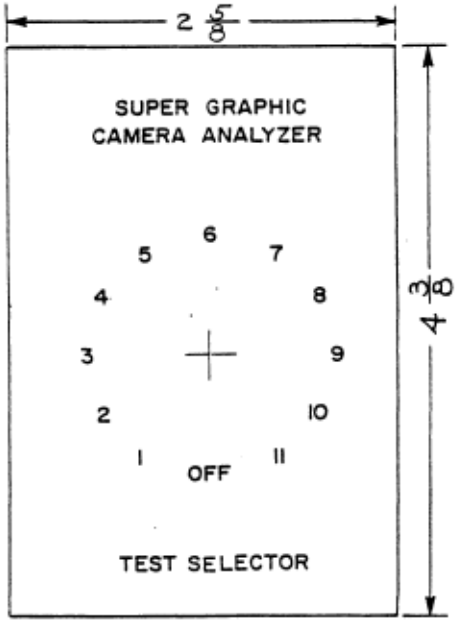


SW. POS.	TEST FUNCTION	READING
1	A TO CASE	0 TO 20
2	B TO CASE	0 TO 20
3	C TO CASE	0 TO 20
4	GUN BRACKET TO CASE	0 TO 10
5	A TO C	0
6	A TO B THRU SWITCH	50
7	SOLENOID	10
8	A TO C SHUTTER	50
9	CAPACITORS	0
10	CAPACITORS	MAX. 25
11	PERFORMANCE	

SET SWITCH TO "OFF" POSITION BEFORE CONNECTING INSTRUMENT TO CAMERA.

3H. CHART - TEST FUNCTION

Material:
Bristolboard



3J. CHART - SELECTOR SWITCH

Q. SUPER GRAPHIC ANALYZER - CALIBRATION

Calibration is accomplished without the camera connected to the test head.

WARNING: ALWAYS TURN THE POWER SWITCH OFF BEFORE MAKING ADJUSTMENTS TO THE DIVIDOHM RESISTORS TO PREVENT POSSIBLE ELECTRIC SHOCK AND BURNS.

1. Positions 1 thru 5.
   a. Turn selector switch to position 4.
   b. Turn power switch ON.
   c. Attach alligator clip (black test lead) to tip of red test probe (red test lead).
   d. Adjust R1, 10 megohm potentiometer (on top of chassis directly back of selector switch), until meter reads 50.

2. Positions 6 thru 8.
   a. Turn selector switch to position 6.
   b. Connect jumper wire (short circuit) between A and B prongs on dummy flasher plug.
   c. Turn power switch ON. Indicating meter should read approximately 50.
   d. If adjustment is necessary, turn power switch OFF. Meter reading of less than 50, adjust R5, 1 ohm Dividohm resistor to a greater resistance. Meter reading of more than 50, adjust R5, 1 ohm Dividohm resistor to a lower resistance and repeat c above. It may be necessary to change the adjustment of the Dividohm resistor until proper reading is obtained.
   e. When adjustment of R5, 1 ohm Dividohm resistor is completed; remove jumper wire from A and B prongs on dummy flasher plug.

3. Positions 9 and 11
   a. Turn selector switch to position 9.
   b. Connect 4700 ohm ±5%, 1 watt carbon resistor between contacts on dummy battery plug.
   c. Turn power switch ON. Indicating meter should read approximately 50.
   d. If adjustment is necessary, turn power switch OFF. Meter reading of less than 50, adjust R6, 25 ohm Dividohm resistor, to a greater resistance. Meter reading of more than 50, adjust R6, 25 ohm Dividohm resistor to a lower resistance and repeat c above. It may be necessary to change the adjustment of the Dividohm resistor until proper reading is obtained.
   e. When adjustment of R6, 25 ohm Dividohm resistor, is completed; remove 4700 ohm resistor from contacts on dummy battery plug.

4. Position 10.
   a. Turn selector switch to position 10.
   b. Connect a 470,000 ohm ±5%, 1 watt carbon resistor between contacts of dummy battery plug.
   c. Turn power switch ON. Meter should read approixmately 50.
   d. If adjustment is necessary, turn power switch OFF. Meter reading of less than 50, adjust R7, 5000 ohm Dividohm resistor, to a greater resistance. Meter reading of more than 50, adjust R7, 5000 ohm Dividohm resistor, to a lower resistance and repeat c above. It may be necessary to change the adjustment of the Dividohm resistor until proper reading is obtained.
   e. When adjustment of R7, 5000 ohm Dividohm resistor is completed; remove 470,000 resistor from contacts on dummy battery plug.

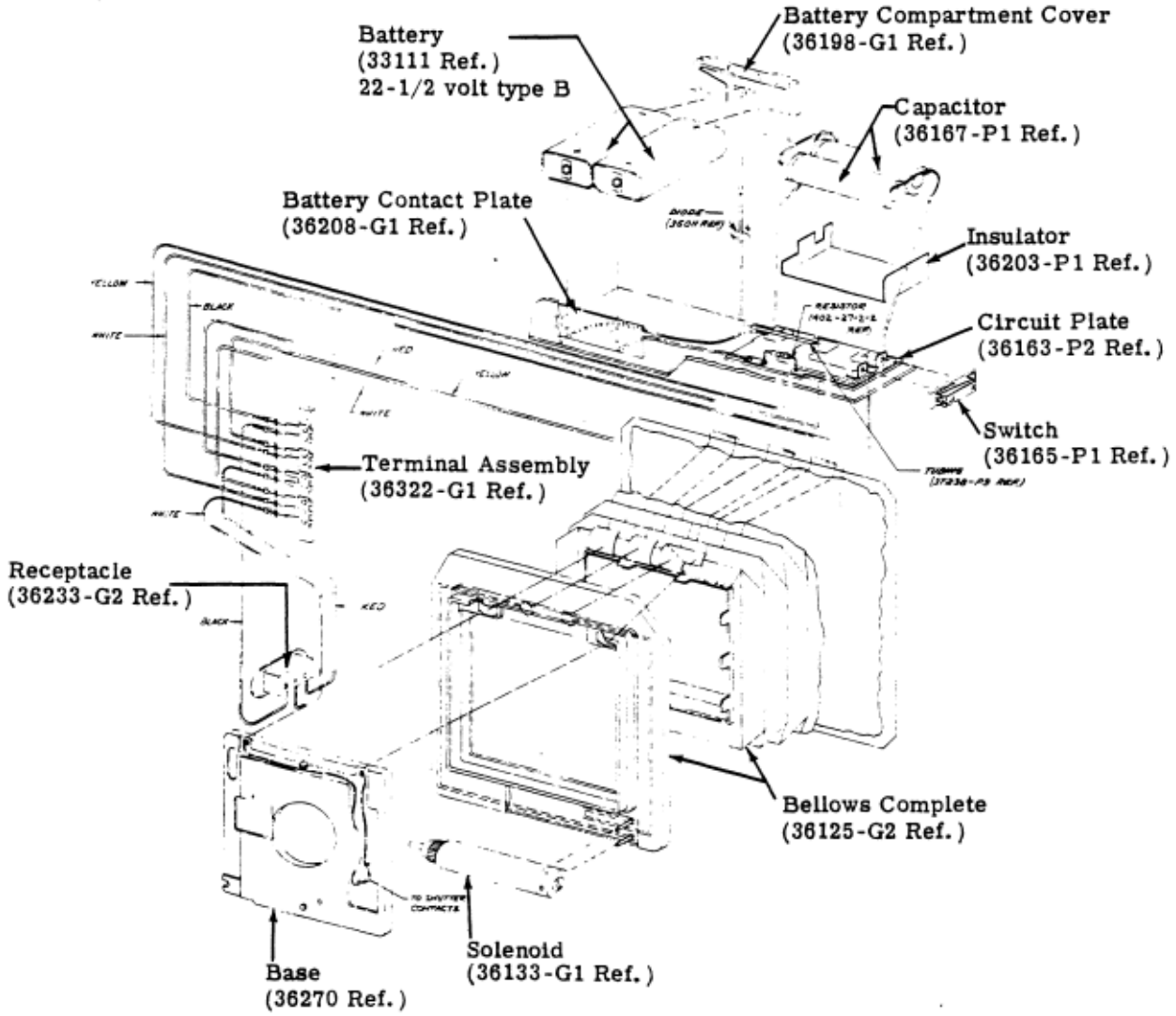


Figure 4. PHYSICAL DIAGRAM (Cameras over serial No. 646124)

R. SUPER GRAPHIC ANALYZER TEST

NOTE: Current cameras bearing serial numbers over 646124, have taper tab type wiring (see figure 4). Early cameras bearing serial numbers up to 646124, have soldered wire connections (see figure 4A). The test procedure is based on the early cameras; however, the test can also be used as a guide for current cameras having taper tab type wiring.

1. Turn selector switch on the Super Graphic Analyzer (Figure 3) to OFF position and turn power switch ON.

CAUTION: The selector switch must always be in OFF position before test head or harness is connected to camera; otherwise, indicating meter in the instrument will be damaged.

2. Remove lensboard with lens and shutter from the camera. This will eliminate any possibility of erroneous indications during the camera test.

3. Insert dummy battery plug, clip side up, into battery compartment of camera.

CAUTION: Do not insert dummy battery plug any other way; otherwise, capacitors in camera will be damaged.

4. Insert dummy flasher plug into receptacle located on lower right side of camera.

5. Attach black probe lead (with clip) to bed yoke.

NOTE: Anodize finish has an insulation characteristic. Thus, it will be necessary to pierce through the anodize finish on the bed yoke to insure good electrical contact.

6. Turn selector switch to position 1. - Check

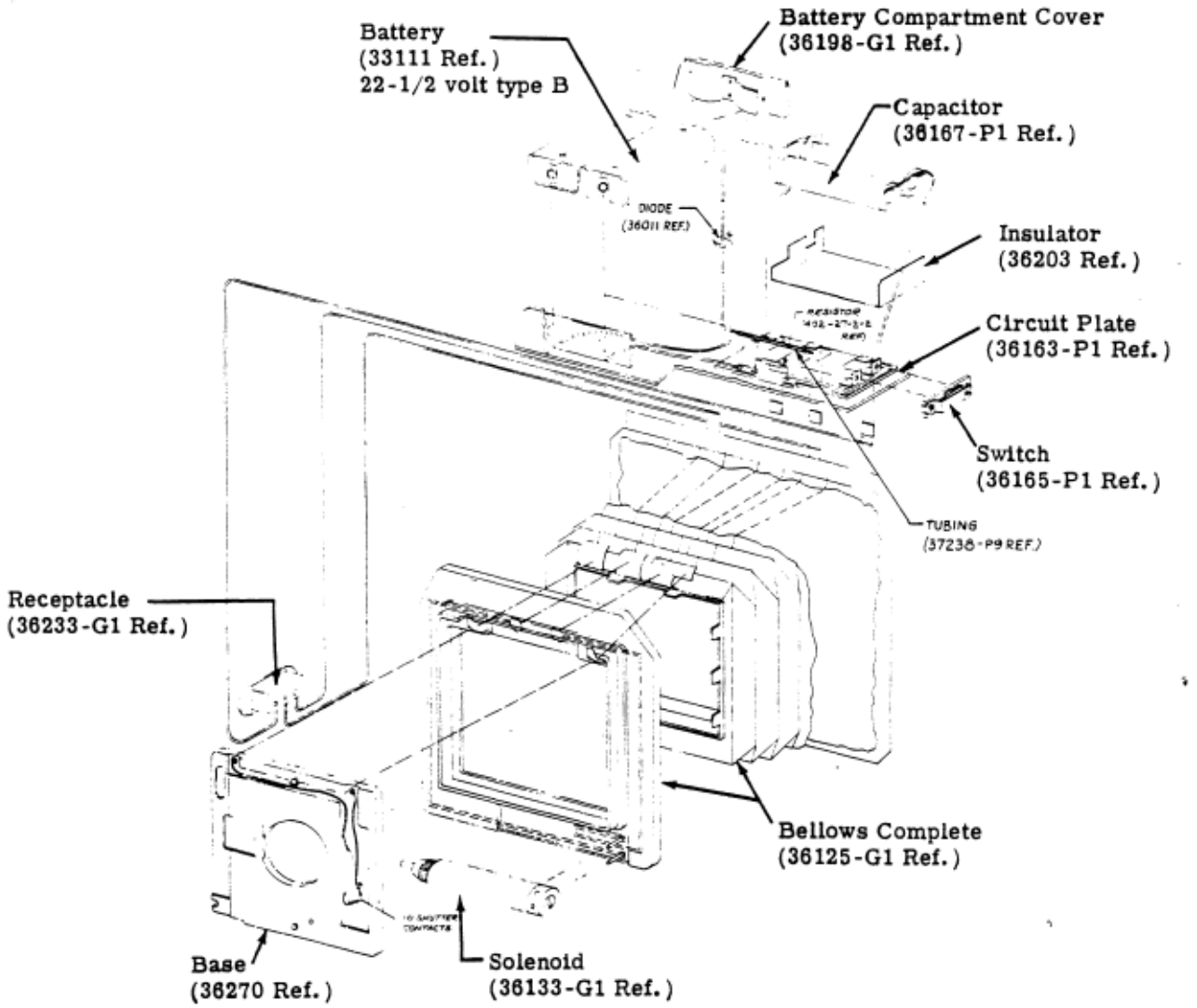


Figure 4A. PHYSICAL DIAGRAM (Cameras up to serial No. 646124)

reading. An abnormal reading indicates a short circuit or leakage from circuit A to camera case. Check the following:

a. Connection at bellows strip and circuit plate terminal.

b. Between the camera switch and the rangefinder base assembly.

c. Between A lead from the receptacle and retaining strip which secures bellows to camera.

7. Turn selector switch to position 2. - Check reading. An abnormal reading indicates a short circuit or leakage from circuit B to camera case. Check the following:

a. Connection between B lead from the receptacle and circuit plate terminal shorting the ground.

b. Capacitor lead shorting to pinion bracket in the rangefinder.

c. Short between positive connection on battery contact plate to rangefinder housing.

d. Connection between X bellows strip and rangefinder terminal to case.

e. Between B lead from the receptacle and retaining strip which secures bellows to camera.

NOTE: Leakage indicated in positions 1 and 2 may be caused by a shorted or leaky solenoid. If no leakage is indicated on positions 1 and 2 with solenoid removed, solenoid is defective.

8. Turn selector switch to position 3. - Check reading. An abnormal reading indicates C to case short. Check the following:

a. Short at junction of C lead and bellows strip to rangefinder housing or to retaining strip securing the bellows to camera.

9. Turn selector switch to position 4. - Check reading while probing flash gun brackets with red probe. An abnormal reading indicates:

a. Broken or defective insulating strip between bracket and camera case.

b. Nylon washer might be cracked or broken.

10. Turn selector switch to position 5. - Check

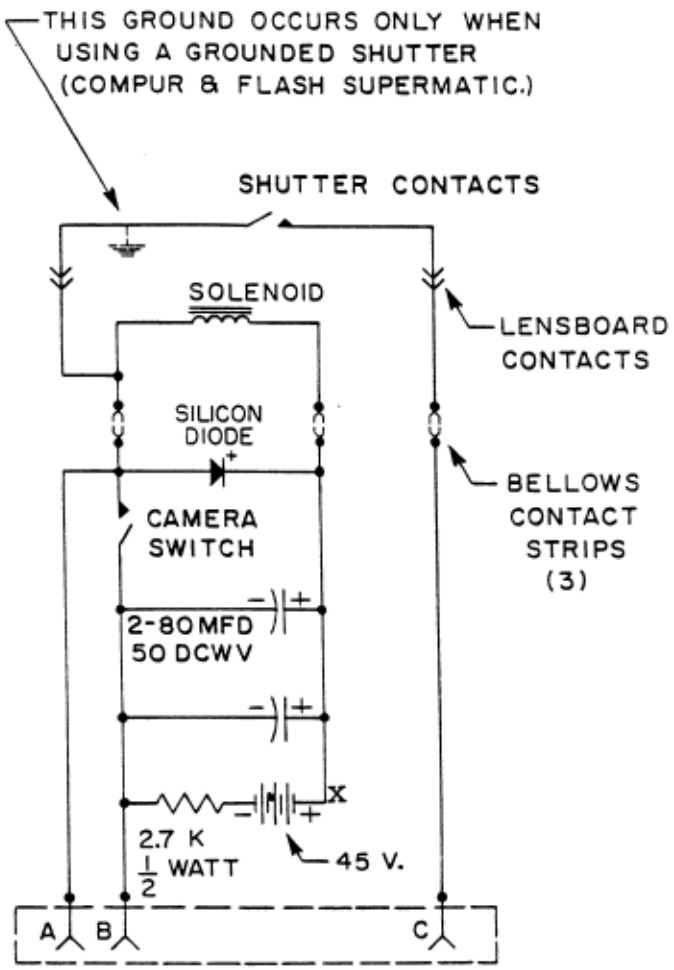


Figure 5. CAMERA CIRCUIT SCHEMATIC

reading. An abnormal reading indicates A to C short. Check the following:

a. Short circuit or leakage between A and C connections in receptacle.

b. Short circuit or leakage between A and C bellows contact strips.

11. Turn selector switch to position 6. - Push shutter release button, on camera, inward to close shutter release switch. - Check reading. An abnormal reading indicates:

a. Defective switch.

b. Open or bad connection at junction of A or B circuit plate terminals and leads from receptacle.

12. Turn selector switch to position 7. - Check reading. An abnormal reading indicates the following:

a. Low reading
   (1) open winding in solenoid.
   (2) bad connections in solenoid or solenoid contacts in bellows frame.
   (3) bad connections at junction of circuit plate terminals in A or X bellows strip.

b. High reading
   (1) shorted or partially shorted solenoid winding.

13. Connect a piece of insulated jumper wire across two contacts located in upper portion of bellows front frame and secure jumper wire with two standard alligator clips. Turn selector switch to position 8. - Check reading. Abnormal reading indicates:

a. Bad contact at A or C bellows strip at either back or front of the bellows.

b. Broken bellows contact strip.

14. Turn selector switch to position 9. - Check reading. An abnormal reading indicates:

a. Excessive leakage in capacitors.

CAUTION: If excessive reading is obtained in position 9, DO NOT make test 10; otherwise, indicating meter will be damaged.

15. Turn selector switch to position 10. An abnormal reading indicates:

a. Reading in excess of 25 on indicating meter indicates defective capacitors - operating camera under these conditions will greatly shorten battery life.

16. Turn selector switch to position 11.

a. Remove jumper leads and two alligator clips, press shutter release button several times making sure that shutter trip crank is operating properly and returning to its normal position. If shutter trip crank does not move or return to its normal position this is an indication that solenoid plunger is sticking or there is foreign matter within the solenoid.

b. Install lensboard with lens and shutter, cock the shutter and press shutter release button to see that shutter is operating properly. Improper operating shutter could be caused by plunger in solenoid out of adjustment, defective solenoid or shutter actuating mechanism.

NOTE: Each camera should be tested in all positions 1 through 11 and all abnormal readings recorded. Make all necessary repairs at one time.

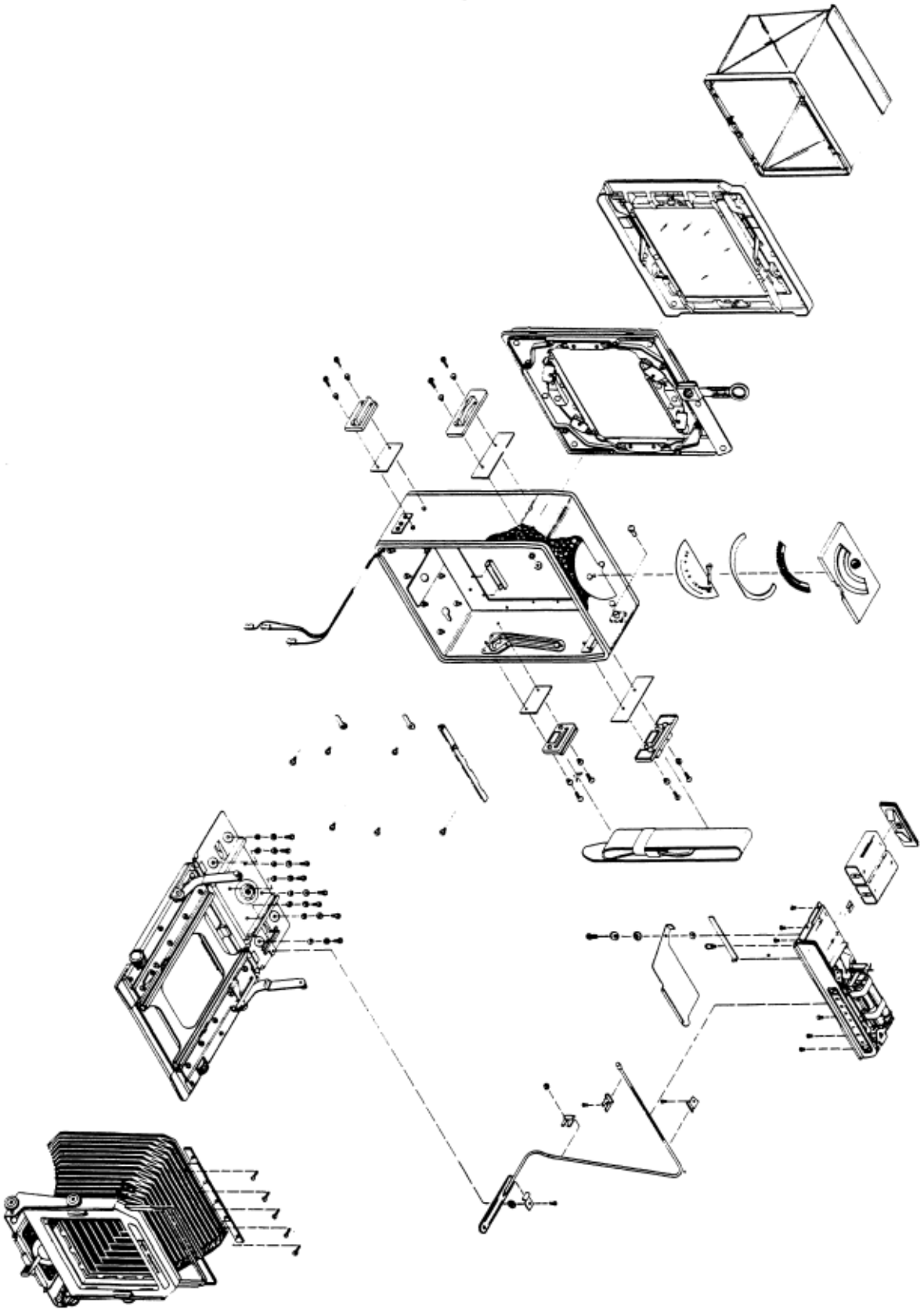


Figure 6. CAMERA BASIC (up to serial No. 646124)

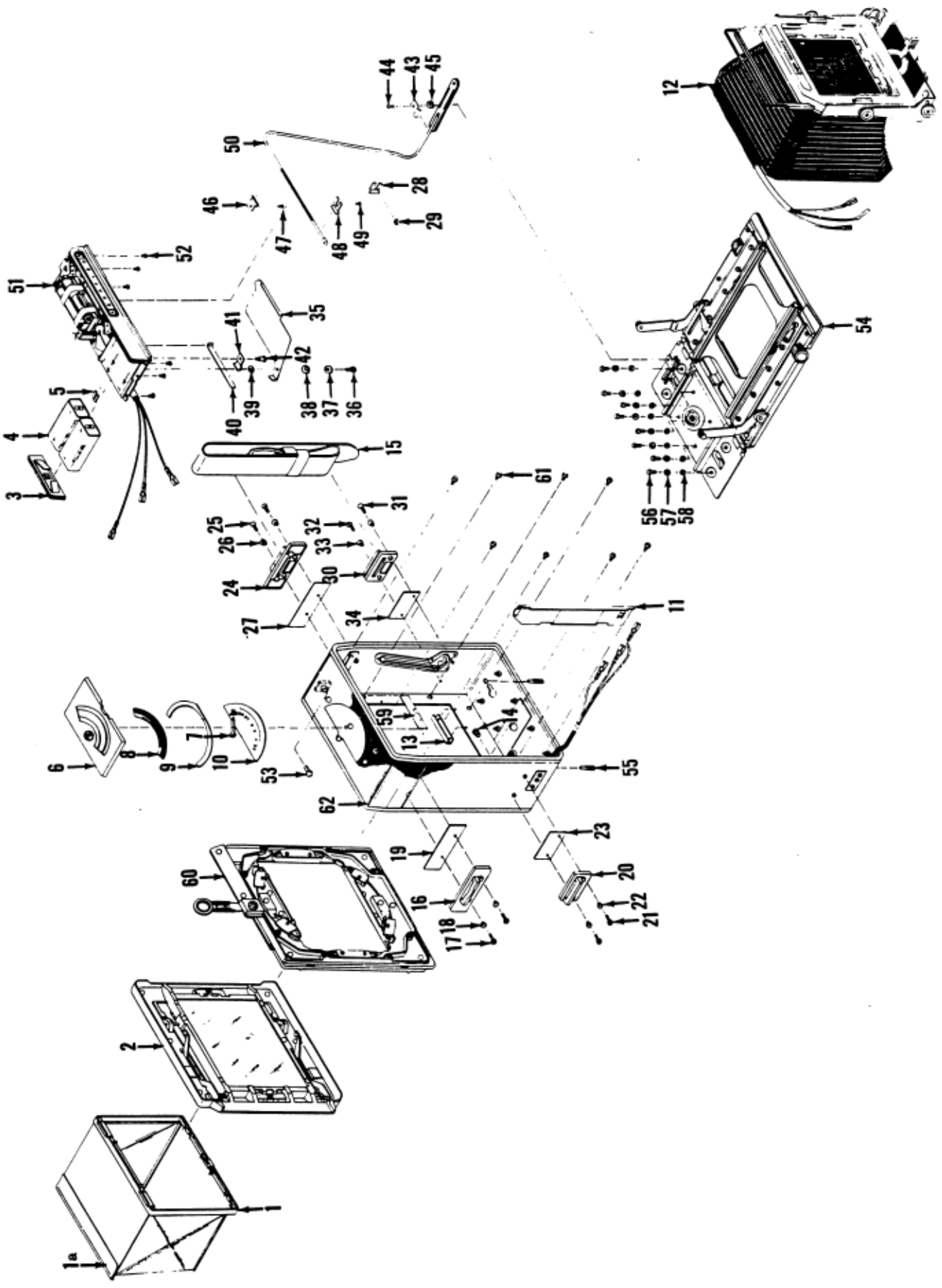


Figure 7. CAMERA BASIC (over serial No. 646124)

S. CAMERA BASIC - DISASSEMBLY AND REASSEMBLY

GENERAL: The disassembly and reassembly procedure is based on cameras bearing serial numbers over 646124 (Figure 7). Cameras bearing serial numbers up to 646124 (Figure 6) are partially identical in construction and service; the differences are described in the Parts List.

1. Disassembly

a. Remove focusing hood assembly (1) by pressing downward to open and pull outward on top or bottom panel. If necessary, remove the dark slide clip (1a) by inserting a small tool under front top corner and pressing outward.

NOTE: The focusing hood assembly is assembled with stake pins and should not be disassembled. The hood should be replaced as a unit so that trouble free operation can be maintained.

b. Remove focusing frame assembly (2) by simultaneously pressing downward on knurled finger pads of the upper and lower arms and sliding focusing frame assembly to the right. If further disassembly of the focusing frame assembly is necessary, see Par. T.

c. Remove battery compartment cover assembly (3) by pressing inward on left side of cover and slide slightly to the left.

d. Remove two batteries (4).

e. Remove retainer clip (5), release focusing scale cover lock (located in upper section of battery compartment) and remove focusing scale cover assembly (6).

f. Remove focusing scale indicator (7) by applying small amount of methyl ethyl ketone to loosen adhesive around pinion shaft. Use two screwdrivers to support focusing scale indicator, pry straight upward, being careful not to bend pinion shaft.

NOTE: If focusing scale indicator has been removed, it cannot be used again.

g. Remove exposure guide (8), exposure guide spring (9) and focusing scale plate (10).

h. Remove terminal cover board assembly (11) and disconnect three bellows leads from terminal board assembly.

i. Remove front standard complete (12) by removing six bellows clips (13). If further disassembly of the front standard complete is necessary, see Par. U.

j. Remove terminal board cover stud (14).

k. Remove handle (15).

m. Remove upper right handle bracket (16) by removing two machine screws (17), two insulating washers (18) and handle bracket insulator (19).

n. Remove lower right handle bracket (20) by removing two machine screws (21), two insulating washers (22) and handle bracket insulator (23).

p. Remove upper left handle bracket (24) by removing two machine screws (25), two insulating washers (26) and handle bracket insulator (27).

q. Remove clamp (28) by removing machine nut (29).

r. Remove lower left handle bracket (30) by removing two machine screws (31 & 32), two insulating washers (33) and handle bracket insulator (34).

s. Remove cam cover (35) by removing machine screw (36), cam cover collar (37), spring washer (38) and flat washer (39).

t. Remove cam cover spring (40). Remove clamp (41) by removing stud (42).

u. Remove clamp (43) by removing machine screw (44) and flat washer (45).

v. Remove clamp (46) by removing machine screw (47).

w. Remove clamp (48) by removing machine screw (49).

x. Remove rangefinder tube assembly (50).

y. Disconnect three rangefinder leads from terminal board assembly and remove rangefinder housing complete (51) by removing six machine screws (52). Remove shutter release button (53). If further disassembly of the rangefinder housing complete is necessary, see Par. V.

NOTE: Remove rangefinder housing complete with care to avoid damage to pinion shaft.

z. Remove bed complete (54) by removing eight each machine screws (56), lock washers (57) and flat washers (58). If further disassembly of the bed complete is necessary, see Par. W.

NOTE: The two groove pins (55) used to align the bed, should not be removed from the hinge section.

aa. If necessary, remove cemented insulator (59).

bb. Remove back assembly (60) from the body complete (62) by removing eight machine screws (61). If further disassembly of the back assembly is necessary, see Par. X.

2. Reassembly

a. Assemble back assembly (60) to body complete (62), using eight machine screws (61).

b. Apply 3M EC-880 adhesive to bottom surface of insulator (59) and assemble in place.

c. Assemble bed complete (54), using eight each flat washers (58), lock washers (57) and machine screws (56). Check bed alignment and adjust if necessary. If the two groove pins (55) have been removed, drill two additional holes 0.123 + .003 -.000 x 0.300 + .015 -.000 deep. Insert two groove pins (55). and press flush to 0.010 below covering on camera body.

d. Assemble shutter release button (53) and position rangefinder housing complete (51) in camera body. Move rangefinder housing forward and backward and simultaneously press shutter release button, until button correctly operates the switch. It may be necessary to use a shorter or longer button. Insert and drive tight, six machine screws (52). Connect three rangefinder leads from terminal board assembly.

e. Position rangefinder tube assembly (50) in camera body.

f. Assemble clamp (48), using machine screw (49).

g. Assemble clamp (46), using machine screw (47).

h. Apply a small amount of Cordo #2055 adhesive to underside (formed portion) of clamp (43). Assemble clamp, using flat washer (45) and machine screw (44). Do not tighten machine screw.

i. Assemble clamp (41), using stud (42). Assemble cam cover spring (40).

j. Assemble cam cover (35), using flat washer (39), spring washer (38), cam cover collar (37) and machine screw (36).

NOTE: The cam cover should not exhibit any looseness when closed and cam spring should keep cam cover in open position for cam changing. Adjust if necessary.

k. Assemble lower left handle bracket (30). using insulator (34), two insulating washers (33), machine screw (32) and machine screw (31).

m. Press rangefinder tube against rear partition and assemble clamp (28) and machine nut (29). Tighten machine screw (44).

n. Assemble upper left handle bracket (24). using handle bracket insulator (27), two insulating washers (26) and two machine screws (25).

p. Assemble lower right handle bracket (20), using handle bracket insulator (23), two insulating washers (22) and two machine screws (21).

q. Assemble upper right handle bracket (16), using handle bracket insulator (19), two insulating washers (18) and two machine screws (17).

r. Assemble handle (15).

s. Assemble terminal board cover stud (14).

t. Connect three bellows leads to terminal board assemble and position bellows portion of front standard complete (12) in camera body and assemble six bellows clips (13). Lubricate two rails and position front portion of front standard in bed yoke. Check sliding locking action of front standard, adjust if necessary.

u. Assemble terminal board cover assembly (11).

v. Assemble focusing scale plate (10), exposure guide spring (9), exposure guide (8) and proceed with actuating bracket adjustment, Par. G, before assembly of focusing scale indicator (7). If necessary, make double vision adjustment, Par. F. Assemble focusing scale cover assembly (6) and lock in place with focusing scale cover lock. Assemble retainer clip (5) between cover lock and camera body.

w. Assemble two batteries (4) in battery compartment. The red positive (+) end on left side and black negative (-) end on right side.

x. Assemble battery compartment cover assembly (3) by pressing inward and slide to the right until locked in place.

y. Assemble focusing frame assembly (2) in position on back assembly.

z. Assemble focusing hood assembly (1).

aa. Check all operations of the camera and make all necessary adjustments. See Super Graphic analyzer camera test, Par. R.

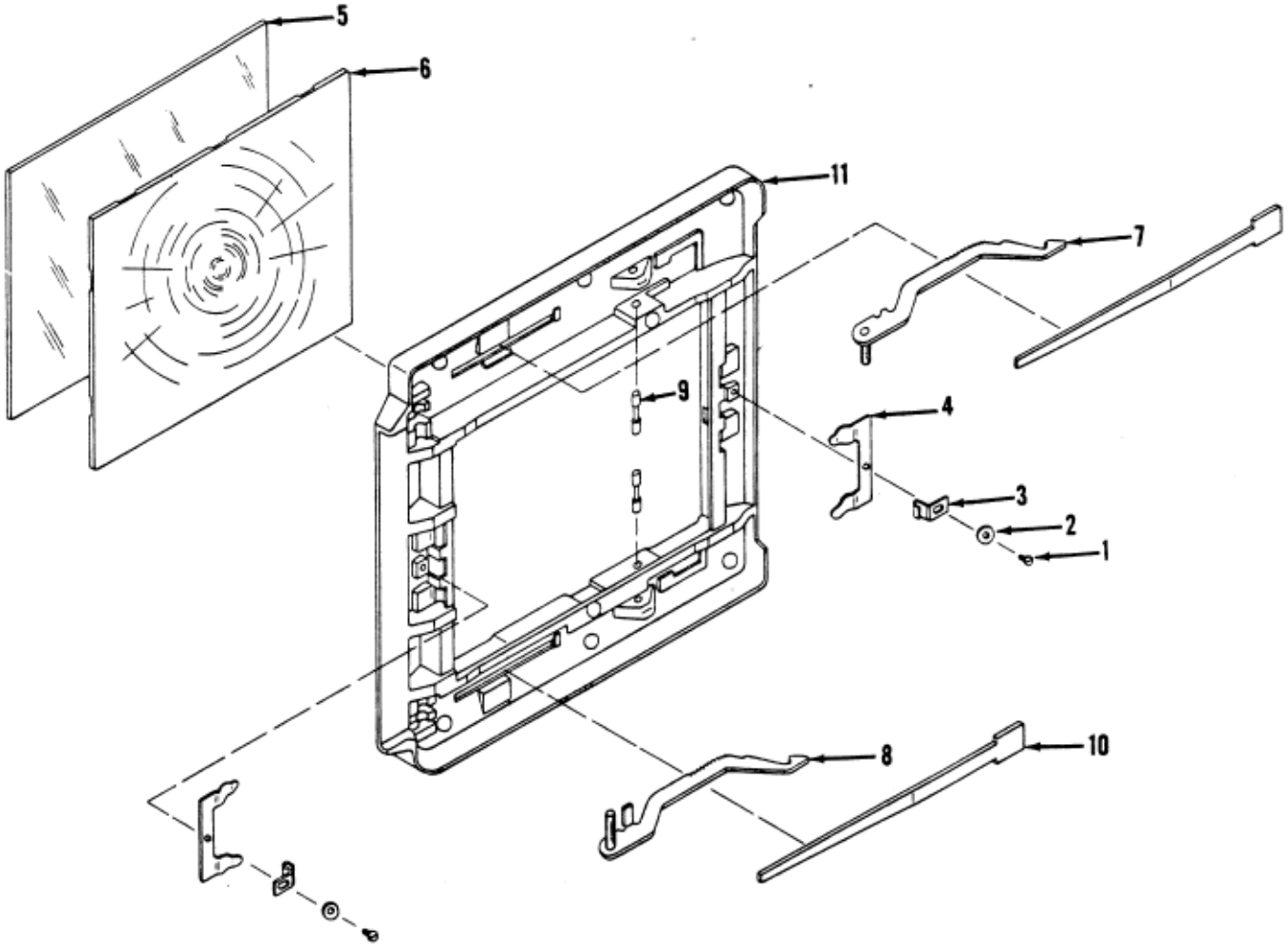


Figure 8. FOCUSING FRAME ASSEMBLY

T. FOCUSING FRAME ASSEMBLY - DISASSEMBLY AND REASSEMBLY (Figure 8)

1. Disassembly

a. Remove machine screw (1), flat washer (2), focusing hood retainer (3) and focusing screen retainer (4) on two sides.

b. Remove ground glass focusing screen (5) and Ektalite screen (6).

c. Remove arm assembly (7) or (8) by lifting upward on hook end of arm and pulling straight backward.

d. If necessary, remove spring pin (9) and arm assembly spring (10) by depressing spring (releaving spring tension on shaft of pin) and driving pin towards large opening in focusing frame (11). Repeat same procedure on opposite side.

e. Wash ground glass focusing screen (5) and Ektalite screen (6) with soap and water. Rinse thoroughly and dry.

CAUTION: Do not use cleaner containing an abrasive or solvent on either ground glass or Ektalite screen that will scratch or react to plastic.

2. Reassembly

a. If arm assembly spring (10) and spring pin (9) have been removed from focusing frame (11), locate spring in position in focusing frame, depress spring and drive pin in place.

b. Use a small tool to lift upward on tapered end of arm assembly spring (10) and assemble arm assembly (8) or (7).

NOTE: Use a tool that will not scratch or damage painted surfaces of focusing frame.

c. Assemble Ektalite screen (6) and ground glass focusing screen (5) so that the grooved side of Ektalite screen is in contact with frosted side of ground glass screen. Polished side of ground glass screen will be on the outside.

d. Assemble focusing screen retainer (4), focusing hood retainer (3), flat washer (2) and machine screw (1) on two sides.

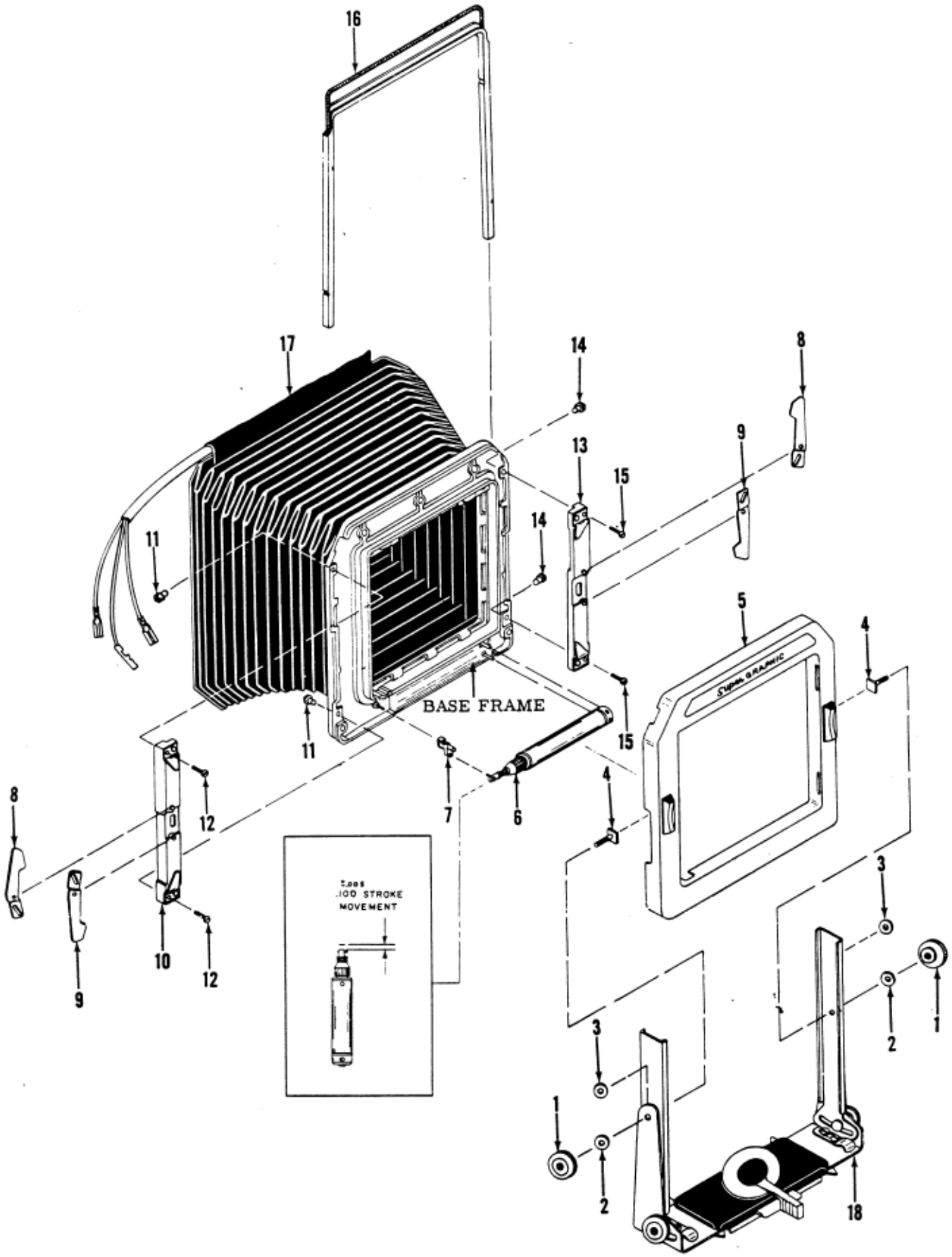


Figure 9. FRONT STANDARD COMPLETE

U. FRONT STANDARD COMPLETE - DISASSEMBLY AND REASSEMBLY (Figure 9)

1. Disassembly

a. Remove two locking knobs (1) and two flat washers (2).

NOTE: Ends of locking studs are staked.

b. Spread sides of front standard assembly (18). and remove front frame assembly (with bellows attached). Remove two flat washers (3) and two front frame locking studs (4). If it is necessary to disassemble front standard assembly, see Par. U. 1.

c. Remove front frame assembly (5), solenoid assembly (6) and shutter trip crank (7).

d. Remove two upper locks (8) and two lower locks (9).

e. Remove right stile assembly (10) by removing two machine nuts (11) and two machine screws (12).

f. Remove left stile assembly (13) by removing two machine nuts (14) and two machine screws (15).

g. Remove finder complete (16) from base frame of bellows complete (17).

2. Reassembly

a. Assemble finder complete (16) in base frame of bellows complete (17).

b. Assemble left stile assembly (13), using two machine screws (15) and two machine nuts (14).

c. Assemble right stile assembly (10), using two machine screws (12) and two machine nuts (11).

d. Assemble two lower locks (9) and two upper locks (8).

e. Assemble shutter trip crank (7), solenoid assembly (6) and front frame assembly (5).

f. Apply paraffin to two sliding surfaces of two front frame locking studs (4) and assemble studs in opening between bellows base frame and front frame assembly.

g. Spread two sides of front standard assembly (18) and assemble the above sub assembly, using flat washer (3) between front standard and supports on two sides.

h. Assemble two flat washers (2) and two locking knobs (1). Stake ends of locking studs (4).

U. 1. FRONT STANDARD ASSEMBLY - DISASSEMBLY AND REASSEMBLY (Figure 9A)

1. Disassembly

a. Remove right support (1) and left support (2) by removing locking knobs (3), flat washers (4), machine screws (5) and flat washer (6).

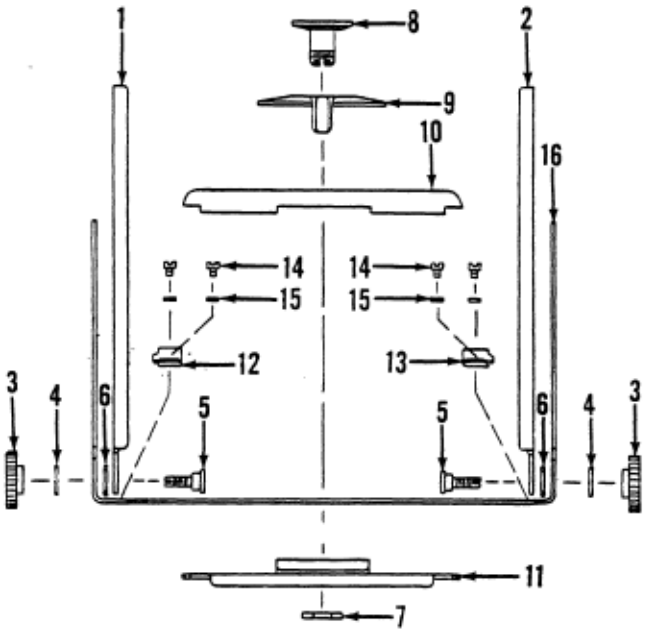


Figure 9A. FRONT STANDARD ASSEMBLY

NOTE: Ends of machine screws are staked.

b. Remove machine nut (7), machine screw (8), lock lever (9), upper lock plate (10) and lower locking plate complete (11).

c. Remove right stop (12) and left stop (13) by removing four machine screws (14) and four flat washers (15).

2. Reassembly

a. Assemble left stop (13) and right stop (12), using four flat washers (15) and four machine screws (14).

b. Assemble lower locking plate complete (11), upper lock plate (10), lock lever (9), machine screw (8) and machine nut (7).

NOTE: Before assembling lower locking plate complete (11), wipe a light coat of Dow-Corning Hi-Vac Silicone grease to sand blasted surfaces on two sides. Apply #107 Lubriplate to all contacting surfaces of lock lever (9) and wipe off all visable excessive lubricant after assembly.

c. Assemble left support (2) and right support (1), using flat washers (6), special machine screws (5), flat washers (4) and locking knobs (3). Stake ends of special machine screws (5).

d. Check locking action of front standard assembly on bed yoke. If adjustment is necessary, remove machine nut (7) and turn machine screw (8) counterclockwise to tighten or clockwise to loosen. When proper locking action has been obtained, assemble machine nut (7) and tighten.

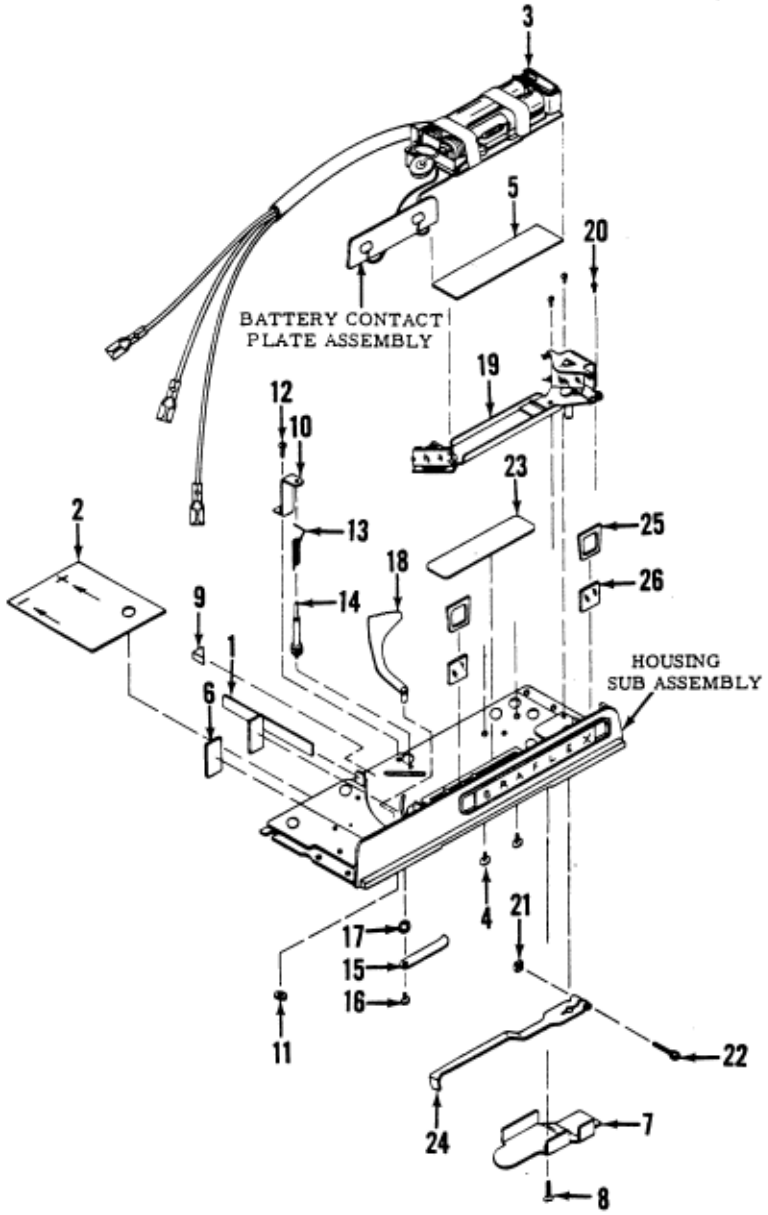


Figure 10. RANGEFINDER HOUSING COMPLETE

V. RANGEFINDER HOUSING COMPLETE - DISASSEMBLY AND REASSEMBLY (Figure 10)

1. Disassembly

a. Remove cemented battery partition (1) and guard (2).

NOTE: The aluminum guard replaces two fiber insulators formerly used.

b. Remove circuit plate complete (3) by removing cemented battery contact plate assembly from housing and by removing two thread cutting screws (4). The battery contact plate is part of the circuit plate complete.

NOTE: If rangefinder housing assembly is to be returned to a Graflex Service Department, do not disassemble any further. Refer to note on Parts List pages 42 or 60.

c. Remove insulator (5).

d. If necessary, remove two cemented contact battery plate insulators (6).

e. Remove rangefinder arm shield (7) by removing machine screw (8).

f. If necessary, remove cemented sector bumper (9).

g. Remove pinion bracket (10) by removing machine nut (11) and machine screw (12).

h. Remove pinion spring (13) and pinion (14).

i. Remove rangefinder lever (15), by removing machine screw (16) and lock washer (17).

j. Remove sector assembly (18).

k. If necessary, remove two window retainers (25) and two cemented rangefinder windows (26).

NOTE: The removal of the following is not recommended: Base Complete (19), Machine Screws (20), Machine Nut (21), Machine Screw (22), Rangefinder Housing Cover (23) and Rangefinder Arm (24).

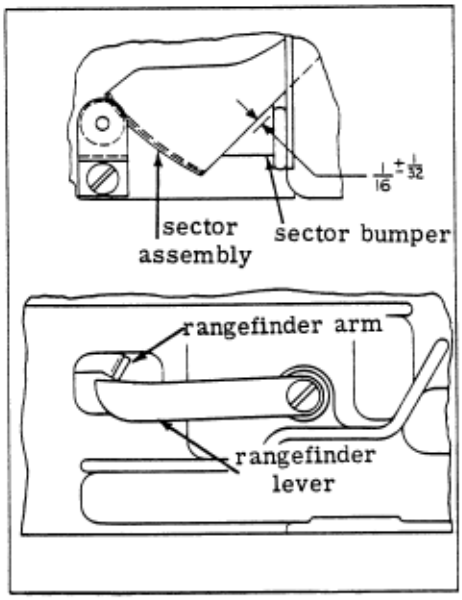


Figure 10A. Lever & Sector Assembly

2. Reassembly

a. If two rangefinder windows (26) have been removed, recement in place, using Cordo #2055 adhesive.

b. Insert two window retainers (25).

c. Assemble sector assembly (18), lock washer (17), rangefinder lever (15) and machine screw (16).

NOTE: Do not tighten machine screw.

d. Assemble pinion (14), pinion spring (13), pinion bracket (10), machine screw (12) and machine nut (11).

NOTE: Tighten machine screw (12) and then tighten machine nut (11).

e. Tighten machine screw (16).

f. Assemble tail portion of pinion spring in a tooth of pinion. Disengage sector assembly from pinion by lifting sector assembly upward. Apply approximately four turns initial tension to focusing pinion and re-engage sector assembly.

NOTE: The tooth of the pinion, in which the tail of the spring is located, should not engage in a tooth of the sector assembly during its travel.

g. If sector bumper (9) has been removed, apply 3M EC-880 adhesive and assemble bumper as illustrated in figure 10A.

h. Assemble rangefinder arm shield (7) and machine screw (8).

i. If two battery contact plate insulators (6) have been removed, apply 3M EC-880 adhesive to insulators and assemble in place.

j. Assemble insulator (5) and circuit plate complete (3), using two thread cutting screws (4). Apply 3M EC-880 adhesive to the two housing bosses and assemble battery contact plate assembly in place.

k. Apply 3M EC-880 adhesive to housing and assemble guard (2).

NOTE: Allow approximately 1/16 in. clearance around sector well when applying adhesive. Do not apply pressure to guard in area covering sector assembly.

m. Apply 3M EC-880 adhesive to the two housing bosses and assemble battery partition (1).

n. Clean windows to remove excess adhesive.

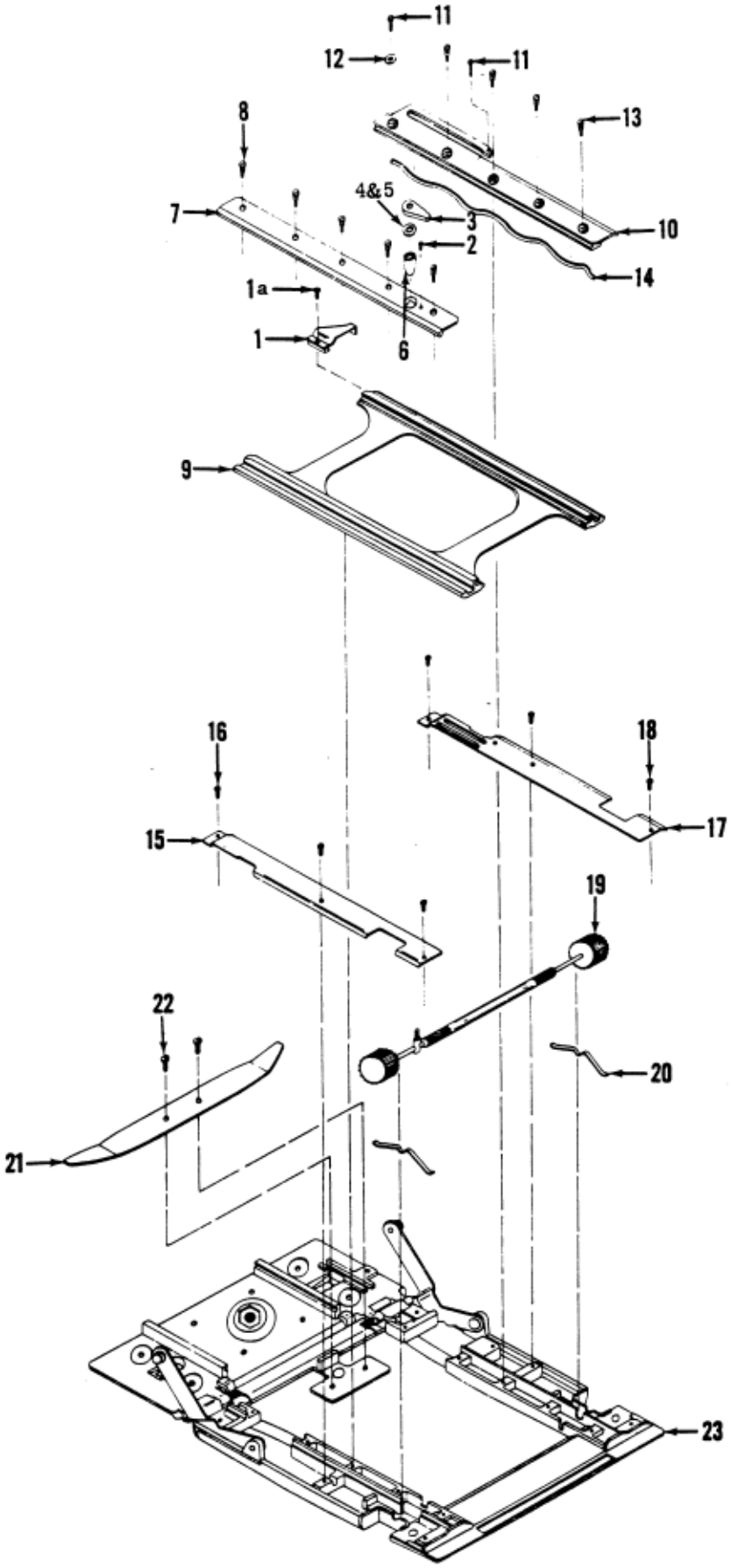


Figure 11. BED COMPLETE

W. BED COMPLETE - DISASSEMBLY AND REASSEMBLY (Figure 11)

1. Disassembly

a. Remove rangefinder actuating bracket assembly (1) by removing one machine screw (1a). The machine screw is part of the rangefinder actuating bracket assembly.

NOTE: Early rangefinder actuating bracket required a plate and two machine screws for mounting.

b. Remove machine screw (2), yoke lock lever (3), flat washers (4 or 5) and yoke lock sleeve (6).

c. Remove right yoke guide (7) by removing five machine screws (8).

d. Remove bed yoke (9).

e. Remove left yoke guide (10) by removing two machine screws (11), one machine screw (12) and four machine screws (13).

f. Remove yoke spring (14) from underside of left yoke guide.

g. Remove right bed cover (15) by removing three machine screws (16).

h. Remove left bed cover (17) by removing three machine screws (18).

i. Remove focusing pinion assembly (19) and two focusing pinion springs (20).

j. Remove bed brace spring (21) from bed assembly (23) by removing two machine screws (22).

2. Reassembly

a. Assemble bed brace spring (21) to bed assembly (23), using two machine screws (22)

b. Apply lubricant SG 4455 or equal, to cradle portion of two focusing pinion springs (20) and to teeth of focusing pinion (19).

c. Assemble two focusing pinion springs and focusing pinion assembly in bed assembly.

d. Assemble left bed cover (17), using three machine screws (18).

e. Assemble right bed cover (15), using three machine screws (16).

f. Assemble yoke spring (14) to underside of left yoke guide (10), with straight end of spring located to the rear. Apply #107 Lubriplate or equal, to groove of left yoke guide.

g. Position left yoke guide, with spring attached, in bed assembly. Insert and start four machine screws (13). Do not tighten machine screws. Place one lock washer (12) in recess and drive in two machine screws (11).

h. Apply lubricant SG 4455 or equal, to teeth of bed yoke (9). Apply #107 Lubriplate or equal, to sliding surfaces of bed yoke and to groove of right yoke guide. (7).

i. Position bed yoke and right yoke guide in bed assembly with bed yoke located in grooves of the left and right yoke guides. Insert and start two machine screws (8) in the two front mounting holes of right yoke guide. Do not tighten machine screw.

j. Assemble yoke lock sleeve (6).

k. Rack bed yoke back and forth to equalize focusing pinion on two sides.

m. Tighten two machine screws (8).

n. Insert and drive tight, three machine screws (8). Tighten machine screws (13).

p. Assemble yoke lock lever (3) so that yoke lock lever will securely lock bed yoke within 60° clockwise movement and clear bed guide. Use flat washers (5 or 4) or any combination of these washers to obtain this adjustment.

NOTE: Excessive tightening of the yoke lock lever will prevent smooth travel of bed yoke.

When proper locking action of yoke lock lever has been accomplished, assemble and adjust machine screw (2).

q. Rack bed yoke back and forth and check bed yoke for smooth travel, adjust if necessary.

r. Assemble rangefinder actuating bracket assembly (1) to bed yoke, using machine screw (1a). See actuating bracket adjustment, Par. G.

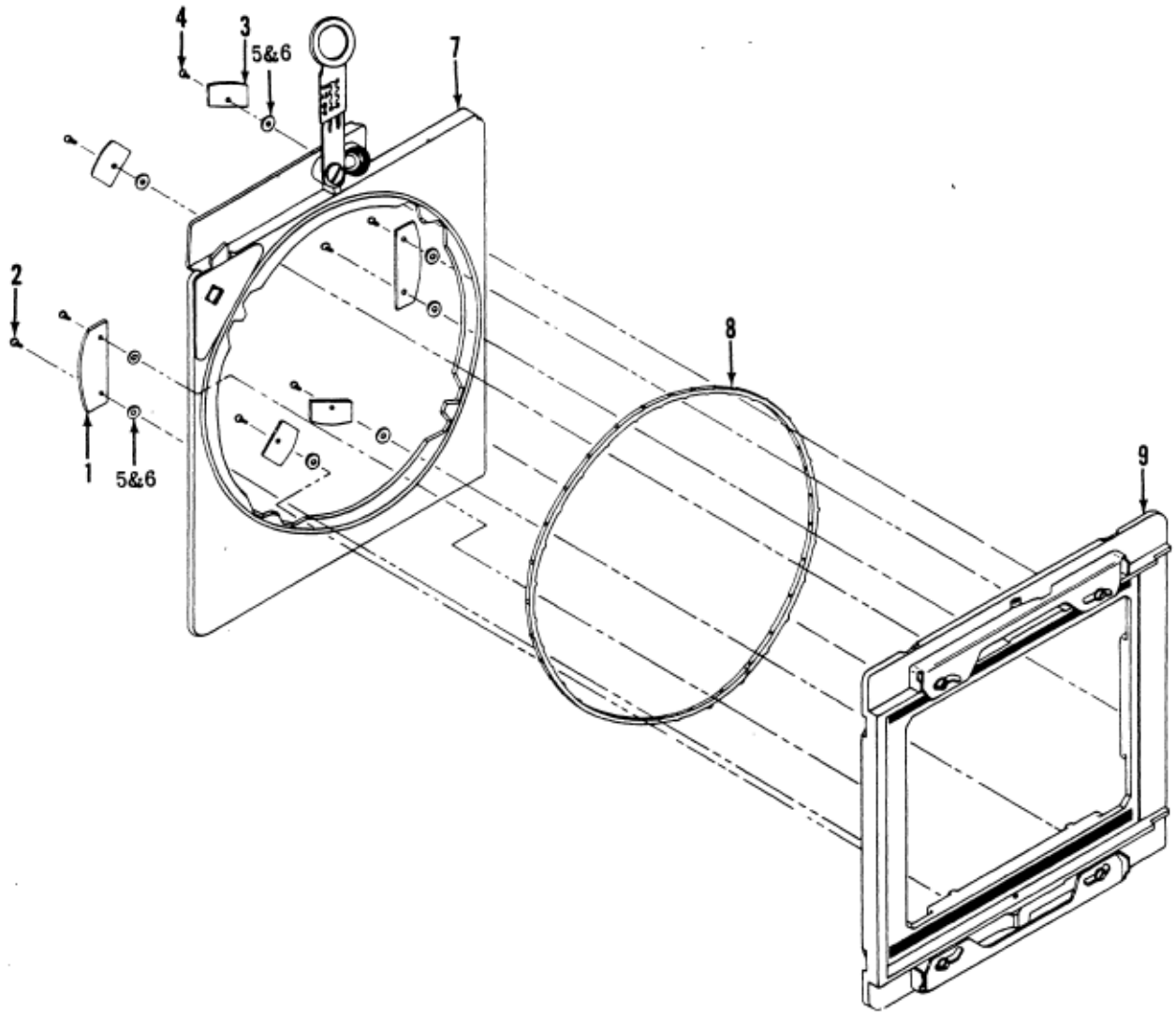


Figure 12. BACK ASSEMBLY

X. BACK ASSEMBLY - DISASSEMBLY AND REASSEMBLY (Figure 12)

1. Disassembly

a. Remove four machine screws (2), four machine screws (4), two retainers (1), four retainers (3), washers (5 & 6, used as required), and stationary frame complete (7). If disassembly of the stationary frame complete is necessary, see Par. X. 1.

b. Remove revolving ring (8) from grooved track of the revolving frame complete (9). If disassembly of the revolving frame complete is necessary, see Par. X. 2.

2. Reassembly

a. Apply Dow-Corning Hi-Vac grease on two sides of revolving ring (8) and assemble revolving ring in grooved track of the revolving frame complete (9).

NOTE: Grease must not appear on any visable surfaces when revolving frame is rotated.

b. Position revolving frame complete, with revolving ring assembled, and stationary frame complete (7). Assemble washers (6 & 5, as required), four retainers (3), two retainers (1), four machine screws (4) and two machine screws (2).

c. Turn revolving frame several times to insure proper seating of revolving ring. The revolving frame must fit snug and turn without binding.

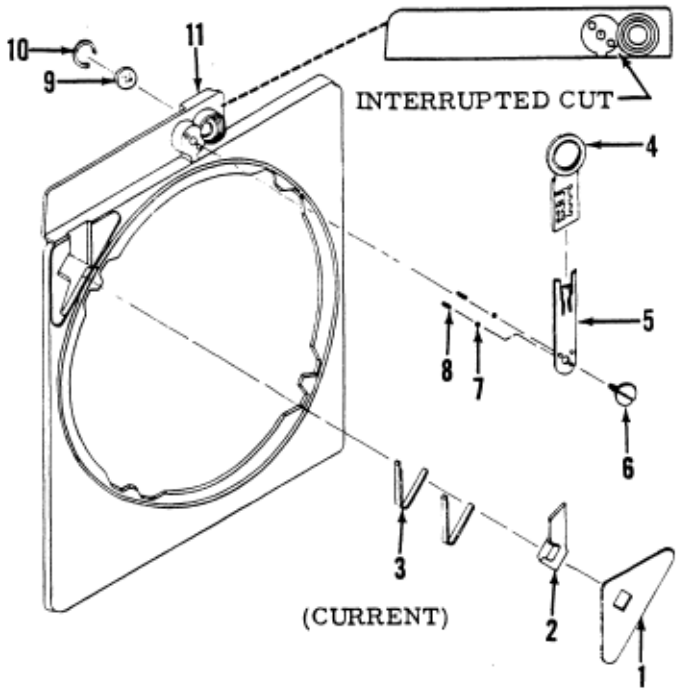


Figure 12A. STATIONARY FRAME COMPLETE

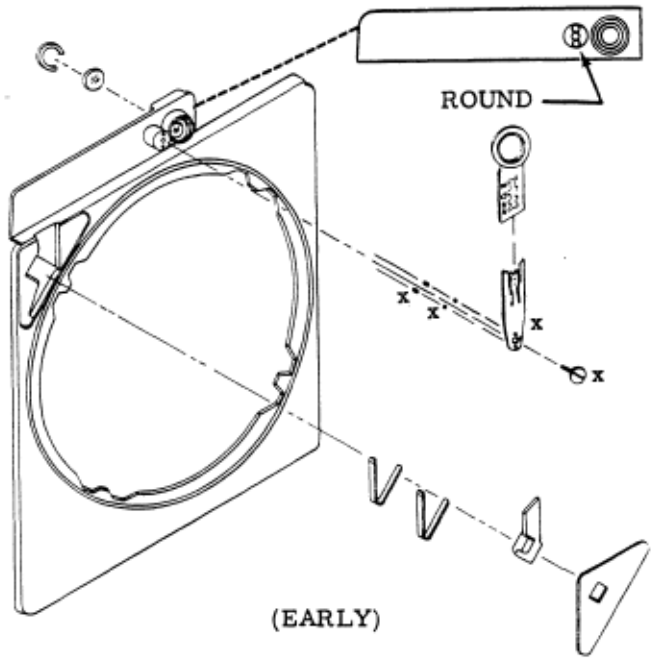


Figure 12B. STATIONARY FRAME COMPLETE

NOTE: A change has been made on the stationary frame as illustrated in figures 12, 12A & 12B. Disassembly and reassembly procedures remain the same. Items marked x in figure 12B are not interchangeable with corresponding items in figure 12A. When ordering replacement parts, refer to the correct parts list.

X. 1. STATIONARY FRAME COMPLETE - DISASSEMBLY AND REASSEMBLY (Figure 12A)

1. Disassembly

a. Remove cemented release button cover (1). Remove release button (2) and two button springs (3) from cavity in stationary frame.

b. Remove peepsight assembly (4).

c. Remove peepsight carrier (5) by removing machine screw (6), two steel balls (7) and two carrier springs (8).

d. Remove rear window (9) from stationary frame assembly (11) by removing retaining ring (10).

2. Reassembly

a. Assemble rear window (9) and retaining ring (10) in stationary frame assembly (11).

b. Insert two carrier springs (8) into two small holes in boss of stationary frame for carrier peepsight mounting. Apply a light coat of Dow-Corning #44 Silicone grease to two steel balls (7) and place a ball over each carrier spring. Apply paraffin to two sides of peepsight carrier (5) and apply Neolube to underside of head of machine screw (6). Position peepsight carrier in place and secure with machine screw.

c. Assemble peepsight assembly (4) to peepsight carrier.

d. Assemble two button springs (3) in cavity of stationary frame. Apply a light coat of Dow-Corning #44 Silicone grease to release button (2) and position in place. Apply 3M 776 adhesive to area around cavity opening in stationary frame, keeping within .050 in. from edges of cavity. Assemble release button cover (1) and remove excess adhesive.

e. Check release button, peepsight assembly and carrier peepsight for smooth operation.

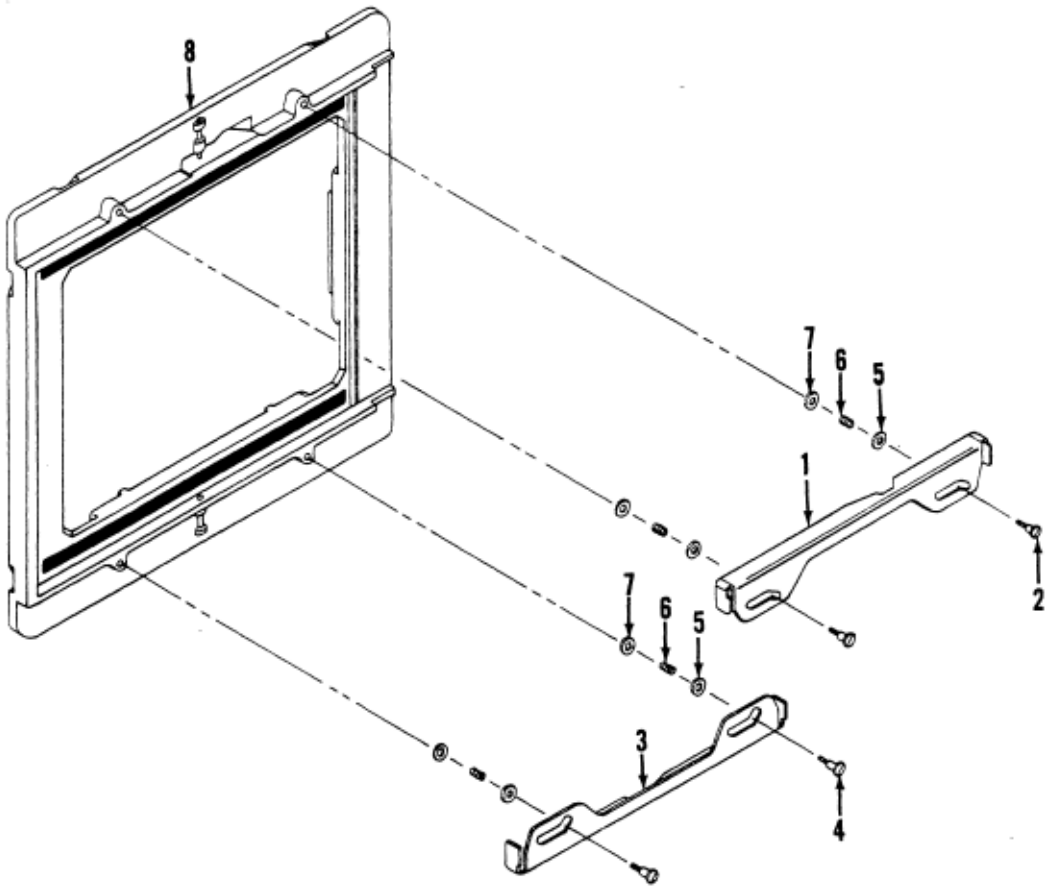


Figure 12C. REVOLVING FRAME COMPLETE

X. 2. REVOLVING FRAME COMPLETE - DISASSEMBLY AND REASSEMBLY (Figure 12C)

1. Disassembly

a. Remove two machine screws (2), upper slide lock (1), and two each flat washers (5), slide lock springs (6) and flat washers (7).

b. Remove two machine screws (4), lower slide lock (3), and two each flat washers (5), slide lock springs (6) and flat washers (7) from frame assembly (8).

2. Reassembly

a. To frame assembly (8), assemble two flat washers (7), two slide lock springs (6), two flat washers (5), lower slide lock (3) and two machine screws (4).

b. Assemble two flat washers (7), two slide lock springs (6), two flat washers (5), upper slide lock (1) and two machine screws (2).

PARTS LIST

The Group Assembly Parts Lists are listed in disassembly order. The list divides the components into major assemblies, their subassemblies and parts. By the use of indented columns, the relationship of the assemblies to the subassemblies and parts is obtained.

The column titled "Figure and Index No." contains the index number in disassembly order of the items illustrated. Do not use the figure or index number in correspondence--specify the catalog or part number and name. Finish should also be included where specified.

The column titled "nomenclature" (including numbered columns) lists item nomenclature on the Graflex drawing. The assembly in the column marked "3" will be a component of the first assembly which preceded it in the column marked "2" etc. The code "NP" will indicate that this part is "not procurable" and that the "next higher assembly" (NHA) should be ordered. The code "AR" is used for bulk items when an indefinite amount may or may not be used "as required. The code "LP" is used when an item may be "locally purchased."

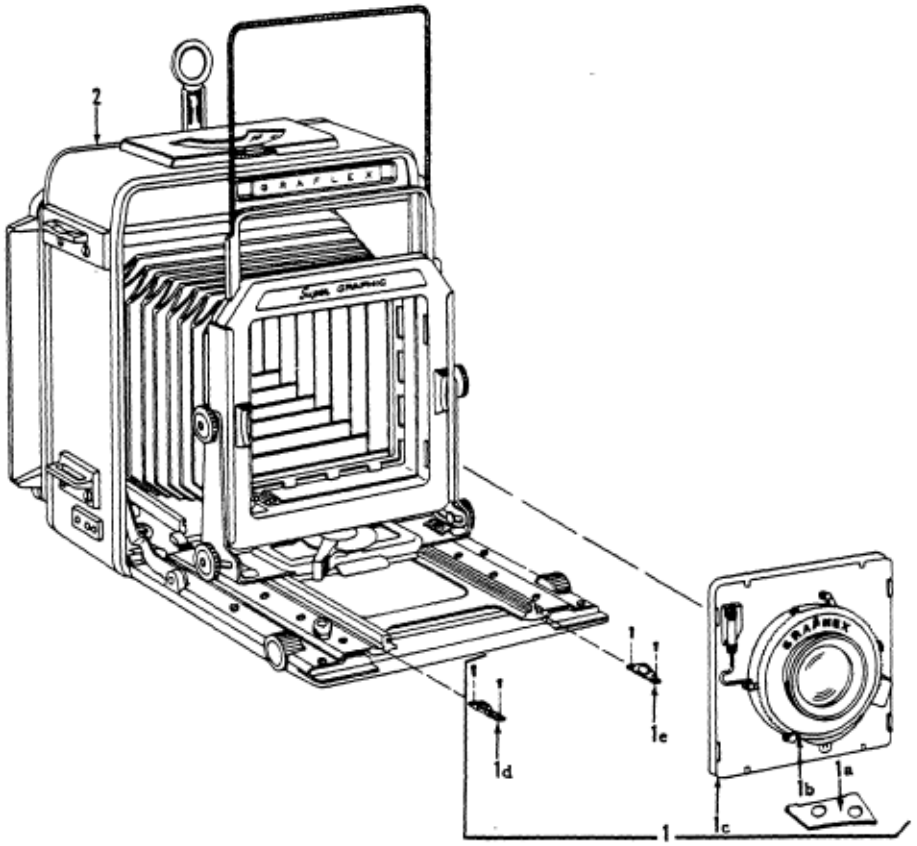


Figure 1. CAMERA COMPLETE - SUPER GRAPHIC

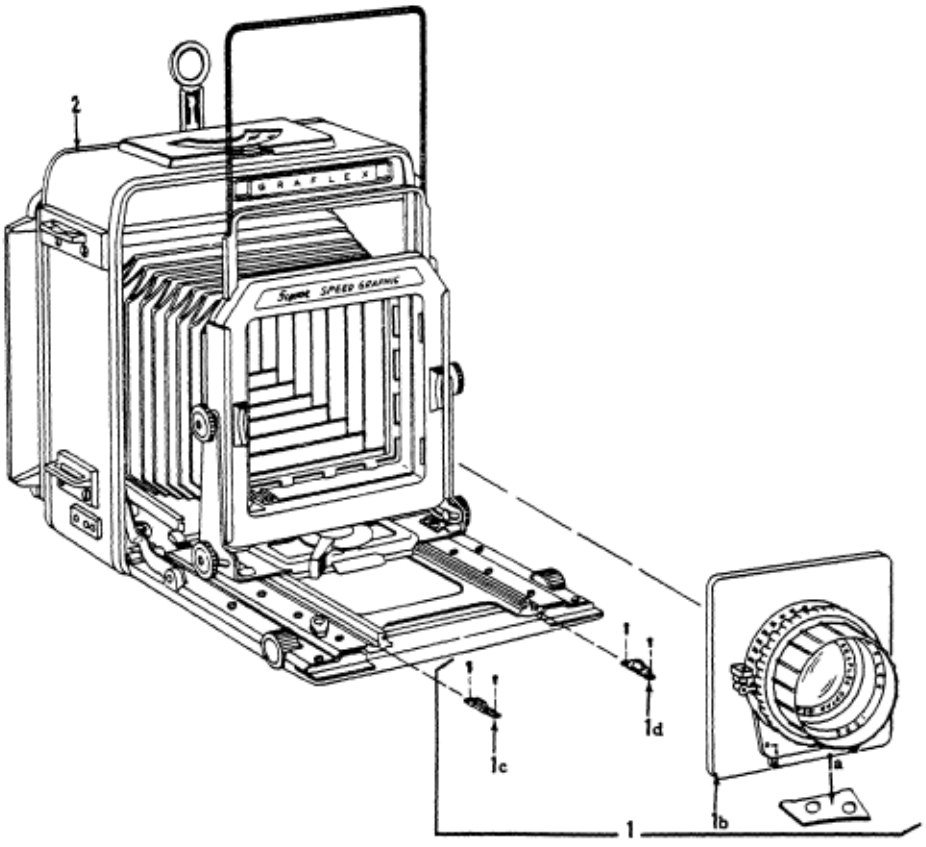


Figure 1A. CAMERA COMPLETE - SUPER SPEED GRAPHIC

Figure and Index No.	Part Number	1 2 3 4 5 Nomenclature	Qty.
1-	Ref.	CAMERA COMPLETE - SUPER GRAPHIC	1
-1	Ref.	. Lens Kit Complete	1
-1a	Ref.	. . Cam - Lens (see note below)	1
-1b	Ref.	. . Lens in shutter (as selected)	1
-1c	Ref.	. . Lensboard Complete - Super Graphic (see Section 8A)	1
-1d	30655-G1	. . Stop Assembly - Right (includes screws)	1
-1e	30655-G2	. . Stop Assembly - Left (includes screws)	1
	30661	. . . Screw - Stop Assembly (pointed, rear)	2
	30662	. . . Screw - Stop Assembly (flat, front)	2
-2	36000-G2G	. Camera Basic (over serial no. 646124) Figure 2	Ref.
	36000-G1	. Camera Basic (up to serial no. 646124) Figure 9	Ref.

Figure and Index No.	Part Number	1 2 3 4 5 Nomenclature	Qty.
1A-	Ref.	CAMERA COMPLETE - SUPER SPEED GRAPHIC	1
-1	Ref.	. Lens Kit Complete	1
-1a	Ref.	. . Cam - Lens (see note below)	1
-1b	Ref.	. . Graflex 1000 Shutter (see Section 8D)	1
-1c	30655-G1	. . Stop Assembly - Right (includes screws)	1
-1d	30655-G2	. . Stop Assembly - Left (includes screws)	1
	30661	. . . Screw - Stop Assembly (pointed, rear)	2
	30662	. . . Screw - Stop Assembly (flat, front)	2
-2	36000-G2S	. Camera Basic (Figure 2)	Ref.

NOTE: The cam is selected after the lens has been optically measured for actual focal length (lens travel). If replacement cam is required, refer to cam procurement below.

CAM PROCUREMENT

1. Order by part number if known (stamped on cam) otherwise, refer to 2 and 3 below.

2. Determine the actual focal length of the lens, by optical measurement (to the nearest .001 of an inch). Specify this information when ordering, and use proper Catalog Number listed below.

3. In the event information in 2 above cannot be supplied, return the lens to the nearest Graflex Service Department, where the optical measurement will be determined and the proper cam supplied. See page 45 for address of nearest Graflex Service Department.

Cat. #3021 Cam - Standard, lenses of focal length of 90mm and from 127mm to 165mm inclusive plus 202mm and telephoto lenses of 25cm, 27cm, (270mm) and 38cm focal length

Cat. #3022 Cam - Special, lenses of focal length other than those included in listing of Cat. #3021 and falling within the range of 88mm and 380mm

Cat. #9473 Collimation Service (applicable when par. 3 under Cam Procurement is required)

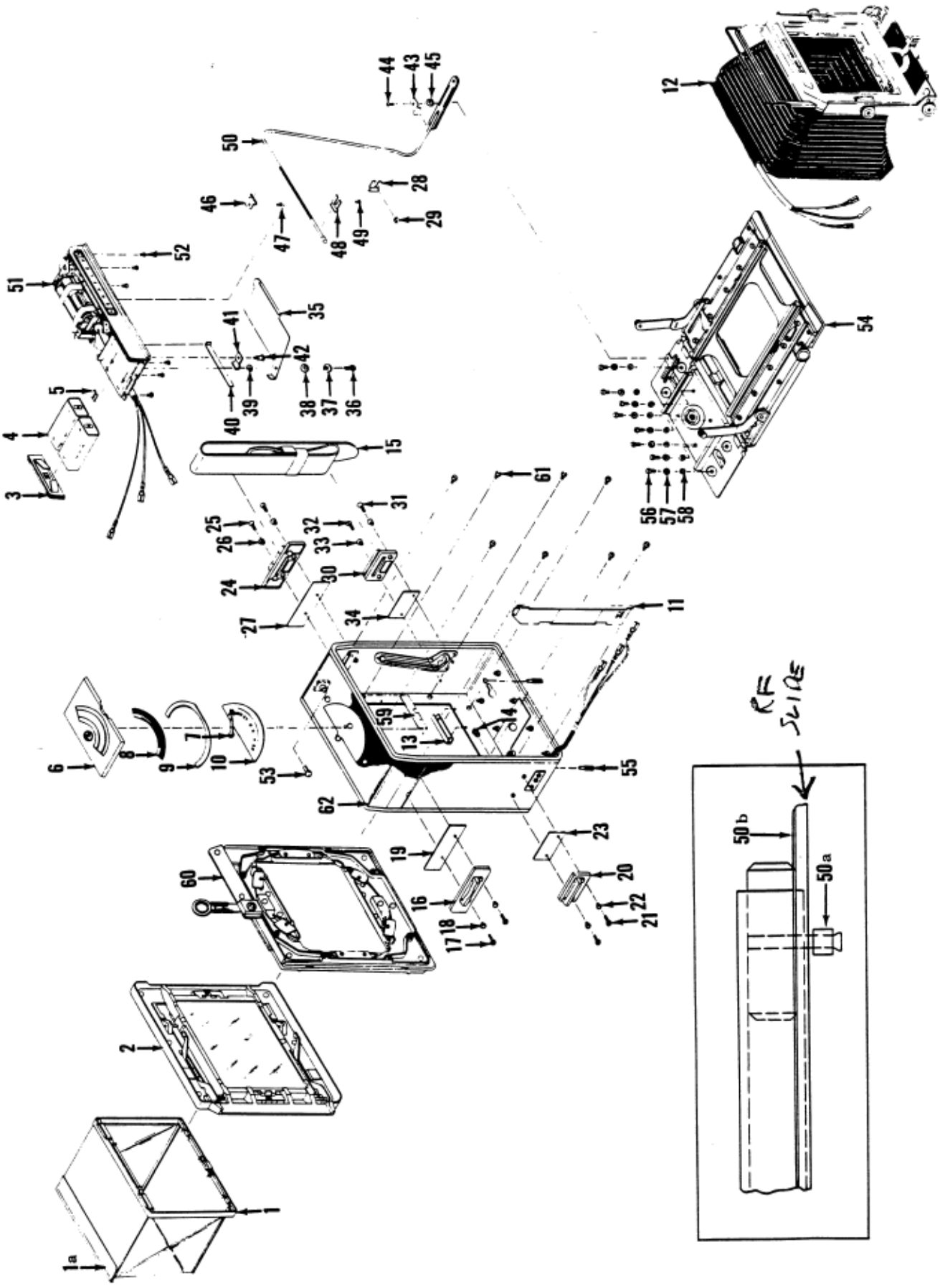


Figure 2. CAMERA BASIC (over serial No. 646124)

Figure and Index No.	Part Number	1 2 3 4 5	Nomenclature	Qty.	
2-	36000-G2G		CAMERA BASIC - SUPER GRAPHIC (over serial no. 646124) . .	Ref.	
	36000-G2S		CAMERA BASIC - SUPER SPEED GRAPHIC	Ref.	
-1	36082-G1	.	Hood Assembly - Focusing.	1	
-1a	36087-P1	. .	Clip - Dark Slide	1	
-2	36073-G1	.	Frame Assembly - Focusing (Figure 3)	1	
-3	36198-G1	.	Cover Assembly - Battery Compartment	1	
-4	33111	.	Battery, 22-1/2 v., flat type, Eveready Cat. #412 or equal. .	2	LP
-5	36328-P1	.	Clip - Retainer	1	
-6	36176-G1	.	Cover Assembly - Focusing Scale	1	
-7	36002	.	Indicator - Focusing Scale	1	
-8	36001-P1	.	Guide - Exposure	1	
-9	36197-P1	.	Spring - Exposure Guide	1	
-10	36213-P1	.	Plate - Focusing Scale	1	
-11	36341-G1	.	Cover Assembly - Terminal Board	1	
-12	36096-G2	.	Standard Complete - Front (Super Graphic) Figure 4	1	
	36096-G3	.	Standard Complete - Front (Super Speed Graphic) Figure 4 . .	1	
	Attaching Part				
-13	32459	.	Clip - Bellows	6	
	---***---				
-14	36340	.	Stud - Terminal Board Cover	1	
-15	36006-P1	.	Handle	1	
-16	36021-P1	.	Bracket - Handle, Upper (right side)	1	
	Attaching Parts				
-17	100-4R6E	.	Screw - Machine, 3/8 in. lg., #4-40, flat head, Phillips Drive, steel, chrome plate	2	
-18	36231	.	Washer - Insulating, Parker-Kalon #106, nylon.	2	
-19	---***---				
-19	36227-P1	.	Insulator - Handle Bracket.	1	
-20	36021-P2	.	Bracket - Handle, Lower (right side).	1	
	Attaching Parts				
-21	100-4R5E	.	Screw - Machine, 5/16 in. lg., #4-40, flat head, Phillips Drive, steel, chrome plate	2	
-22	36231	.	Washer - Insulating, Parker-Kalon #106, nylon.	2	
	---***---				
-23	36227-P2	.	Insulator - Handle Bracket.	1	
-24	36021-P1	.	Bracket - Handle, Upper (left side)	1	
	Attaching Parts				
-25	100-4R5E	.	Screw - Machine, 5/16 in. lg., #4-40, flat head, Phillips Drive, steel, chrome plate	2	
-26	36231	.	Washer - Insulating, Parker-Kalon #106, nylon.	2	
	---***---				
-27	36227-P1	.	Insulator - Handle Bracket.	1	
-28	36193-P2	.	Clamp	1	
	Attaching Part				
-29	200-4HL	.	Nut - Machine, #4 hex., steel, black oxide.	1	
	---***---				
-30	36021-P2	.	Bracket - Handle, Lower (left side).	1	
	Attaching Parts				
-31	100-4R5E	.	Screw - Machine, 5/16 in. lg., #4-40, flat head, Phillips Drive, steel, chrome plate	1	
-32	100-4R6E	.	Screw - Machine, 3/8in. lg., #4-40, flat head, Phillips Drive, steel, chrome plate	1	
-33	36231	.	Washer - Insulating, Parker-Kalon #106, nylon.	2	
	---***---				
-34	36227-P2	.	Insulator - Handle Bracket.	1	
-35	36092-P1	.	Cover - Cam	1	
	Attaching Parts				
-36	110-2-5B	.	Screw - Machine, 5/16 in. lg., #2-56, straight side binding head, slotted, steel, black cadmium plate	1	
-37	36244	.	Collar - Cam Cover	1	
-38	30540-P2	.	Washer - Spring.	1	
	---***---				

Figure and Index No.	Part Number	1	2	3	4	5	Nomenclature	Qty.
2-39	30473-P25L	.					Washer - Flat, 0.281 in. OD x 0.093 in. ID x 0.012 in. thk., steel black oxide	1
-40	36130	.					Spring - Cam Cover	1
-41	36193-P1	.					Clamp	1
	Attaching Part							
-42	36128	.					Stud - Cam Cover Spring	1
	---***---							
-43	36193-P1	.					Clamp	1
	Attaching Part							
-44	102B3-4K	.					Screw - Machine, 1/4 in. lg., #3-48, round head, slotted, brass, oxide black	1
	---***---							
-45	33500-P36	.					Washer - Flat, 0.312 in. OD x 0.128 in. ID x 0.062 in. thk., phenolic	1
-46	34723-P2	.					Clamp	1
	Attaching Part							
-47	102-3-2B	.					Screw - Machine, 1/8 in. lg., #3-48, round head, slotted, steel, black cadmium plate	1
	---***---							
-48	36193-P2	.					Clamp	1
	Attaching Part							
-49	102-3-2B	.					Screw - Machine, 1/8 in. lg., #3-48, round head, slotted, steel, black cadmium plate	1
	---***---							
-50	34739-G2	.					Tube Assembly - Rangefinder	1
-50a	36009	.	.				Collar - Pin	1
-50b	36195	.	.				Slide - Rangefinder Actuating	1
-51	36145-G2	.					Housing Complete - Rangefinder (Figure 5)	1
	Attaching Part							
-52	102-2-2B	.					Screw - Machine, 1/8 in. lg., #2-56, round head, slotted, steel, black cadmium plate	6
	---***---							
-53	36023-P1	.					Button - Shutter Release (0.547 in. lg.)	1
	36023-P2	.					Button - Shutter Release (0.501 in. lg.)	1
	36023-P3	.					Button - Shutter Release (0.591 in. lg.)	1
-54	36035-G1	.					Bed Complete (Super Graphic) Figure 6	1
	36035-G3	.					Bed Complete (Super Speed Graphic) Figure 6	1
	Attaching Parts							
-55	182A6-4	.					Pin - Groov, 1/4 in. lg., 1/8 in. dia., Groove-Pin Corp. Type #3, chrome vanadium steel	2
-56	116-2-4B	.					Screw - Machine, 1/4 in. lg., #2-56, pan head, slotted, steel, black cadmium plate	8
-57	221-2L	.					Washer - Lock, internal tooth, for #2 screw, Shakeproof Cat. #1202, steel, black oxide	8
-58	30473-P44K	.					Washer - Flat, 0.250 in. OD x 0.099 in. ID x 0.025 in. thk., brass, oxide black	8
	---***---							
-59	36211-P3	.					Insulator	1
-60	36060-G1	.					Back Assembly (Figure 7)	1
	Attaching Part							
-61	110-6-3B	.					Screw - Machine, 3/16 in. lg., #6-32, straight side binding head, slotted, steel, black cadmium plate	8
	---***---							
-62	36020-G2	.					Body Complete (Figure 8)	1

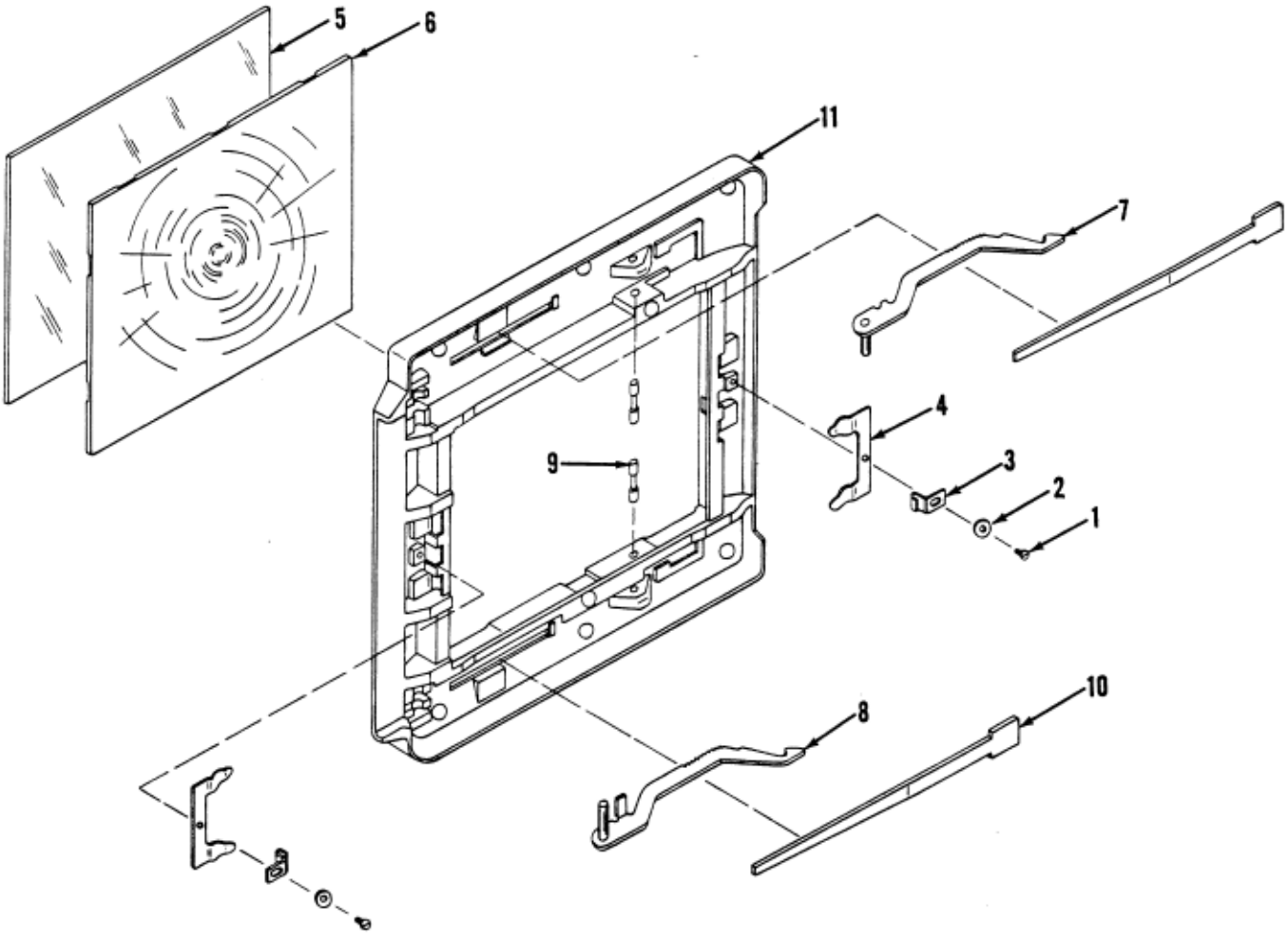


Figure 3. FOCUSING FRAME ASSEMBLY

Figure and Index No.	Part Number	1 2 3 4 5 Nomenclature	Qty.
3-	36073-G1	FRAME ASSEMBLY - FOCUSING	Ref.
-1	110-2-3A	. Screw - Machine, 3/16 in. lg., #2-56, straight side binding head, slotted, steel, cadmium plate	2
-2	30473-P25L	. Washer - Flat, 0.281 in. OD x 0.093 in. ID x 0.012 in. thk., steel, black oxide	2
-3	36076	. Retainer - Focusing Hood	2
-4	36075-P1	. Retainer - Focusing Screen	2
-5	30414-P1	. Screen - Ground Glass	1
-6	31935-P1	. Screen - Ektalite	1
-7	36079-G1	. Arm Assembly - Upper	1
-8	36079-G2	. Arm Assembly - Lower	1
-9	36077	. Pin - Spring	2
-10	36078	. Spring - Arm Assembly	2
-11	36074-P1	. Frame - Focusing	1

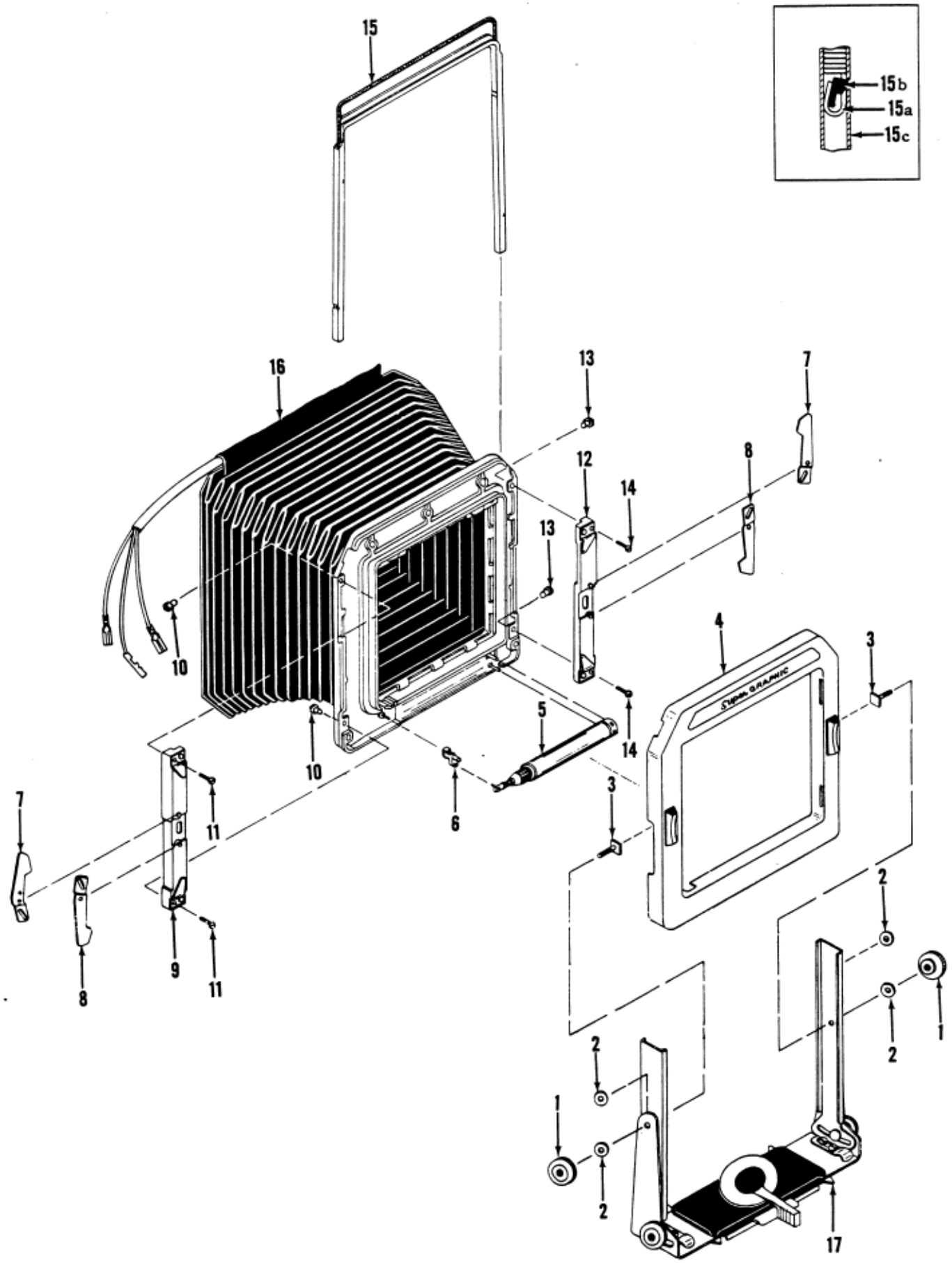


Figure 4. FRONT STANDARD COMPLETE

Figure and Index No.	Part Number	1 2 3 4 5 Nomenclature	Qty.
4-	36096-G2	STANDARD COMPLETE - FRONT (Super Graphic) over serial no. 646124	Ref.
	36096-G3	STANDARD COMPLETE - FRONT (Super Speed Graphic)	Ref.
-1	36105-P1	. Knob - Locking	2
-2	30473-P6	. Washer - Flat, 0.312 in. OD x 0.128 in. ID x 0.015 in. thk., fiber	4
-3	36127	. Stud - Front Frame Locking	2
-4	36117-G1	. Frame Assembly - Front (Super Graphic)	1
	36212-P1	. . Plate - Name (Super Graphic)	1
	36117-G2	. Frame Assembly - Front (Super Speed Graphic)	1
	36212-P2	. . Plate - Name (Super Speed Graphic)	1
-5	36133-G1	. Solenoid Assembly (Figure 4A)	1
-6	36123-P1	. Crank - Shutter Trip	1
-7	36124-P1	. Lock - Upper	2
-8	36124-P2	. Lock - Lower	2
-9	36113-G1	. Stile Assembly - Right	1
	Attaching Parts		
-10	36043	. Nut - Machine (special)	2
-11	110B2-5K	. Screw - Machine, 5/16 in. lg., #3-56, straight side binding head, slotted, brass, oxide black	2
	---***---		
-12	36113-G2	. Stile Assembly - Left	1
	Attaching Parts		
-13	36043	. Nut - Machine (special)	2
-14	110B2-5K	. Screw - Machine, 5/16 in. lg., #2-56, straight side binding head, slotted, brass, oxide black	2
	---***---		
-15	34848-G3	. Finder Complete	1
-15a	34785-G1	. . Finder Assembly	1
-15b	34787	. . Stop - Finder	2
-15c	34795-P3	. . Frame - Finder	1
-16	36125-G2	. Bellows Complete (Figure 4B)	1
-17	36178-G1	. Standard Assembly - Front (Figure 4C)	1

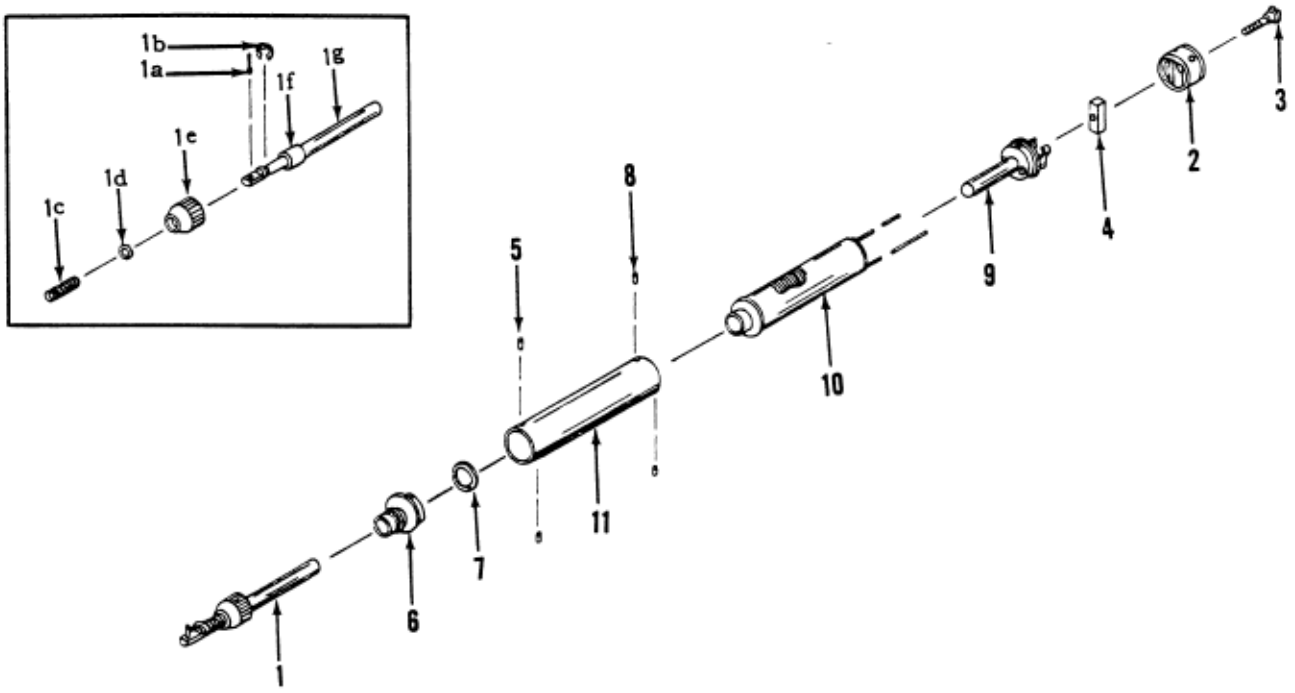


Figure 4A. SOLENOID ASSEMBLY

Figure and Index No.	Part Number	1 2 3 4 5 Nomenclature	Qty.
4A-	36133-G1	SONENOID ASSEMBLY	Ref.
-1	36194-F1	. Plunger Assembly	1
-1a	35439-P2	. . Shaft - Plunger	NP NHA
-1b	251-8	. . Ring - Retaining, Waldes-Kohinoor Cat. #X5133-14, steel	1
-1c	36122	. . Spring - Plunger	1
-1d	30473-P19	. . Washer - Flat	NP NHA
-1e	36137-P2	. . Cap - Solenoid	NP NHA
-1f	36192-P1	. . Collar - Plunger	NP NHA
-1g	36312-P1	. . Plunger - Solenoid	NP NHA
-2	25855	. Cover - Bottom	1
	Attaching Part		
-3	36164	. Screw - Machine (special)	1
	---***---		
-4	31297	. Cushion - Terminal	1
-5	36138	. Rollpin	NP NHA
-6	36136-P1	. Collar - Armature	NP NHA
-7	30473-P5	. Washer - Flat	NP NHA
-7a	30473-P22	. Washer - Flat	NP NHA
-8	36138	. Rollpin	NP NHA
-9	36139-G1	. Base Assembly	NP NHA
-10	36143-G1	. Coil Assembly	NP NHA
-11	36135-P1	. Housing - Solenoid	NP NHA

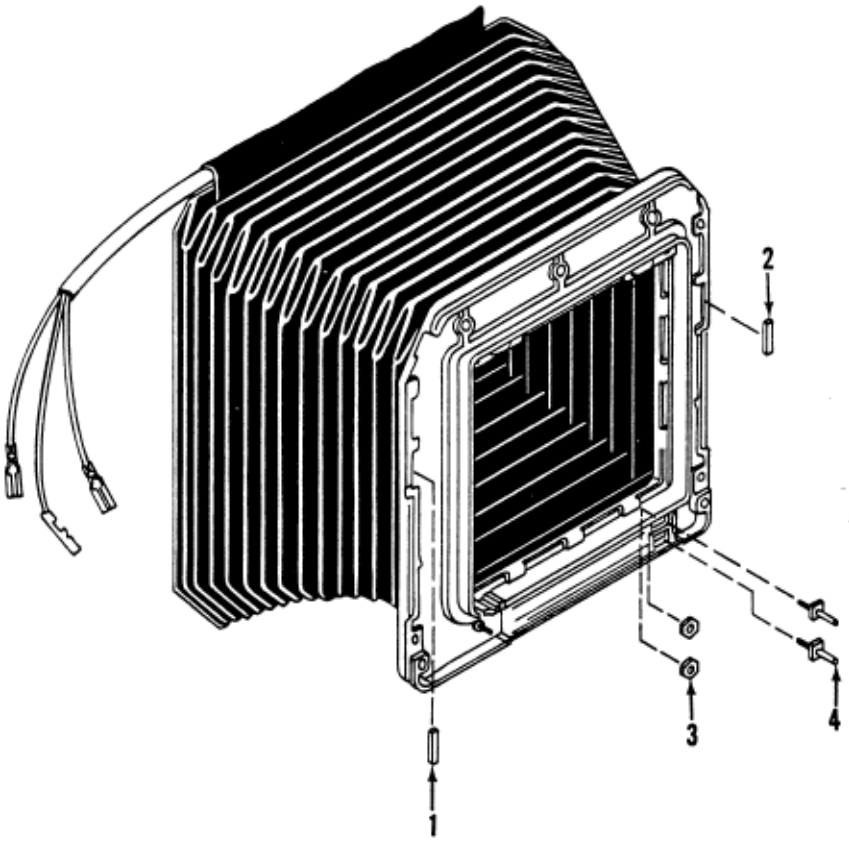


Figure 4B. BELLOWS COMPLETE

Figure and Index No.	Part Number	1 2 3 4 5	Nomenclature	Qty.
4B-	36125-G2		BELLOWS COMPLETE (over serial no. 646124)	Ref.
-1	36337-P1		. Shim - Right	1
-2	36337-P2		. Shim - Left	1
-3	200B1HR		. Nut - Machine, #1 hex, brass, tin plate	2
-4	36121-P1		. Contact - Solenoid	2
	No Number		. Bellows and Base Assembly	NP NHA

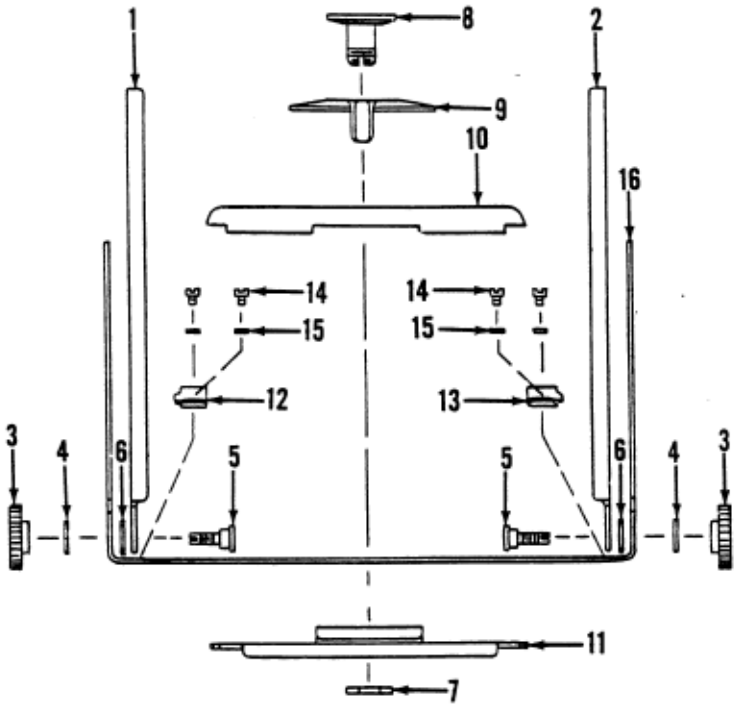


Figure 4C. FRONT STANDARD ASSEMBLY

Figure and Index No.	Part Number	1 2 3 4 5	Nomenclature	Qty.
4C-	36178-G1		STANDARD ASSEMBLY - FRONT	Ref.
-1	36100-P1	.	Support - Right	1
-2	36100-P2	.	Support - Left	1
	Attaching Parts			
-3	36105-P1	.	Knob - Locking	2
-4	30473-P6	.	Washer - Flat, 0.312 in. OD x 0.128 in. ID x 0.015 in. thk., fiber	2
-5	36104-P1	.	Screw - Machine (special)	2
-6	36214	.	Washer - Flat (special)	2
	---***---			
-7	36103	.	Nut - Machine (special)	1
-8	36102-P2	.	Screw - Machine (special) replaces 36102-P1	1
*	36102-P1	.	Screw - Machine (special)	Ref.
-9	36367-P1	.	Lever - Lock (replaces 36101-P1)	1
*	36101-P1	.	Lever - Lock	Ref.
-10	36366-P1	.	Plate - Lock, Upper (replaces 36109-G1)	1
*	36109-G1	.	Plate Assembly - Locking, Upper	Ref.
-11	36362-G1	.	Plate Complete - Locking, Lower (replaces 36106-G1)	1
*	36106-G1	.	Plate Assembly - Locking, Lower	Ref.
-12	36098-P1	.	Stop - Right	1
-13	36098-P2	.	Stop Left	1
	Attaching Parts			
-14	36099	.	Screw - Machine (special)	4
-15	30473-P20	.	Washer - Flat, 0.203 in. OD x 0.124 in. ID x 0.010 in. thk., stainless steel	4
	---***---			
-16	36097-P1	.	Standard - Front	1

* These items were used on early front standard assembly and are no longer available for replacement. Early front standard assemblies can be identified by the Upper Locking Plate Assembly (36109-G1) which included a leather insert. When making replacements on any of these items, it will be necessary to order each of the following: Machine Screw 36102-P2 - Lock Lever 36367-P1 - Upper Lock Plate 36366-P1 and Lower Locking Plate Complete 36362-G1.

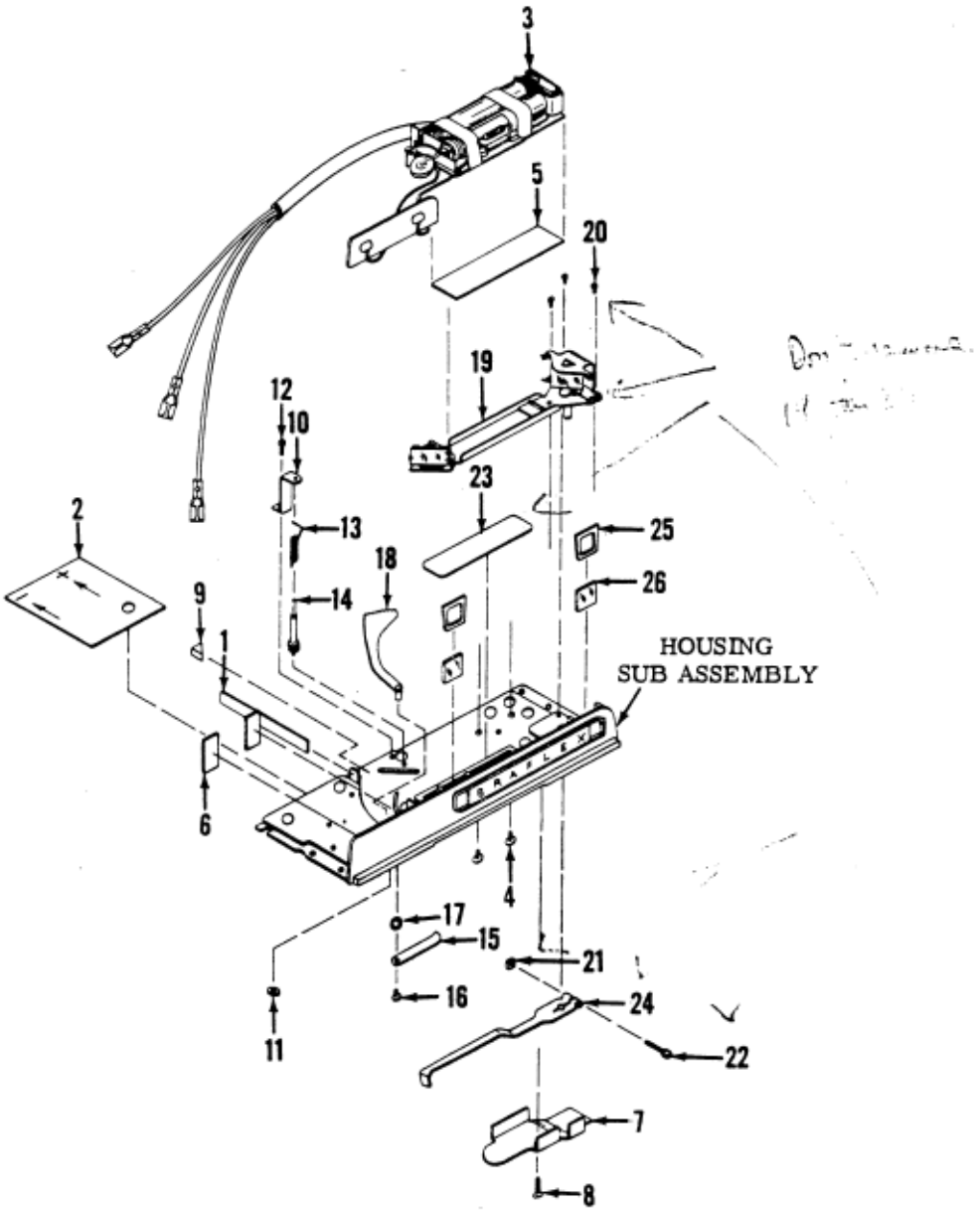


Figure 5. RANGEFINDER HOUSING COMPLETE

Figure and Index No.	Part Number	1 2 3 4 5	Nomenclature	Qty.	
5-	36145-G2		HOUSING COMPLETE - RANGEFINDER (over serial no. 646124)	Ref.	
-1	36229	.	Partition - Battery	1	
-2	36217	.	Guard (aluminum) replaces 36217X and 36335-P1	1	
	36217X	.	Insulator (fiber) replaced by 36217	Ref.	
	36335-P1	.	Insulator (fiber, plain) replaced by 36217	Ref.	
-3	36207-G2	.	Plate Complete - Circuit (Figure 5A)	1	
	Attaching Part				
-4	131-3-3L	.	Screw - Thread Cutting, 3/16 in. lg., #3, Shakeproof Type 23, binding (pan) head, slotted, steel, black oxide	2	
	---***---				
-5	36145-P37	.	Insulator, 2-1/8 in. lg., 1/2 in. wide, .007 in. thk., varnished, cambric cloth	1	LP

Figure and Index No.		Part Number	1	2	3	4	5	Nomenclature	Qty.
5-		36145-G3	.					Housing Assembly - Rangefinder	1
-6		36346		.				Insulator - Battery Contact Plate	2
-7		36245-P1		.				Shield - Rangefinder Arm	1
		Attaching Part							
-8		100B3-4K		.				Screw - Machine , 1/4 in. lg., #3-48, flat head, slotted, brass, oxide black	1
		---***---							
-9		36010		.				Bumper - Sector	1
-10		36147-P1		.				Bracket - Pinion	1
		Attaching Parts							
-11		200B2HK		.				Nut - Machine, #2 hex., brass, oxide black	1
-12		116B2-3K		.				Screw - Machine, 3/16 in. lg., #2-56, pan head, slotted, brass, oxide black	1
		---***---							
-13		36149		.				Spring - Pinion	1
-14		36148-P2		.				Pinion (replaces 36148-P1)	1
		36148-P1		.				Pinion (replaced by 36148-P2)	Ref.
-15		36150-P1		.				Lever - Rangefinder	1
		Attaching Part							
-16		102-2-2L		.				Screw - Machine, 1/8 in. lg., #2-56, round head, slotted, steel, black oxide	1
		---***---							
-17		221-2L		.				Washer - Lock, internal tooth, for #2 screw, Shakeproof Cat. #1202, steel, black oxide	1
-18		36155-G1		.				Sector Assembly	1
-19	*	36158-G2		.				Base Complete (see Figure 5B for procurable items)	1
		Attaching Part							
-20	*	116B2-3K		.				Screw - Machine, 3/16 in. lg., #2-56, pan head, slotted, brass, oxide black	3
		---***---							
-21	*	200-3SL		.				Nut - Machine, #3 square, steel, black oxide	1
-22	*	36152		.				Screw - Machine (special)	1
-23	*	36153-P1		.				Cover - Rangefinder Housing	1
-24	*	36169-P1		.				Arm - Rangefinder	1
-25		36205		.				Retainer - Window	2
-26		36154		.				Window - Rangefinder	2
		No Number		.				Housing Sub Assembly - Rangefinder	Ref.

* These items should not be removed and it is recommended that the rangefinder housing assembly be returned for exchange. See note below.

NOTE: To insure trouble free operation, remove indices 1, 2, 3, 4 & 5 and return rangefinder housing assembly to the nearest Graflex Service Department. An alternate rangefinder housing assembly (at nominal charge), with critical mirror and lever adjustments accomplished, will be returned. A focusing scale indicator (Figure 2-7) and guard (Figure 5 - 2) will also be furnished for installation. Use Cat. #9472 in correspondence when using the exchange program for rangefinder housing assemblies.

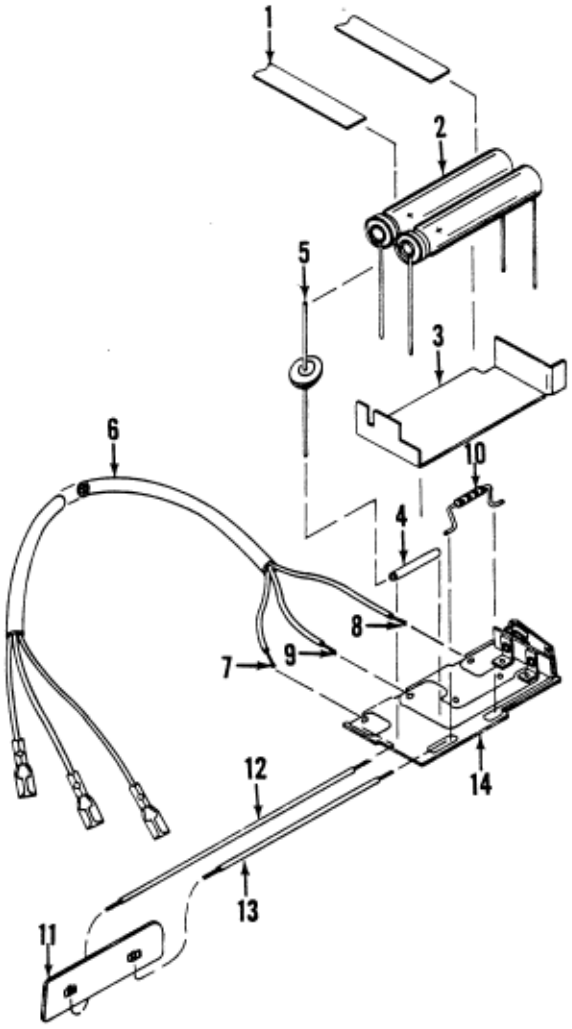


Figure 5A. CIRCUIT PLATE COMPLETE

Figure and Index No.	Part Number	1 2 3 4 5 Nomenclature	Qty.	
5A-	36207-G2	PLATE COMPLETE - CIRCUIT (over serial no. 646124)	Ref.	
-1	35858-P18	. Tape (5/16 in. wide) black Mylar, 3M Scotch Brand Cat. #850	AR	LP
-2	36167-P1	. Capacitor	2	
-3	36203	. Insulator	1	
-4	37238-P9	. Tubing (3/4 in. lg.) #20, black extruded vinyl	1	LP
-5	36011	. Diode, International Rectifier Corp. p/n 2E4	1	
-6	37238-P7	. Tubing (4-1/2 in. lg.) #10, black extruded vinyl	1	LP
-7	36325-G3	. Wire Assembly (yellow)	1	
-8	36325-G5	. Wire Assembly (black)	1	
-9	36325-G6	. Wire Assembly (white)	1	
-10	402-27-2-2	. Resistor, 1/2 w., 2700 ohms	1	
-11	36208-G1	. Plate Assembly - Battery Contact	1	
-12	36207-P6	. Wire (4-1/2 in. lg.) No. 24 AWG, black insulation.	1	LP
-13	36207-P7	. Wire (3-1/4 in. lg.) No. 24 AWG, black insulation.	1	LP
-14	36162-G2	. Plate Assembly - Circuit (includes switch)	1	

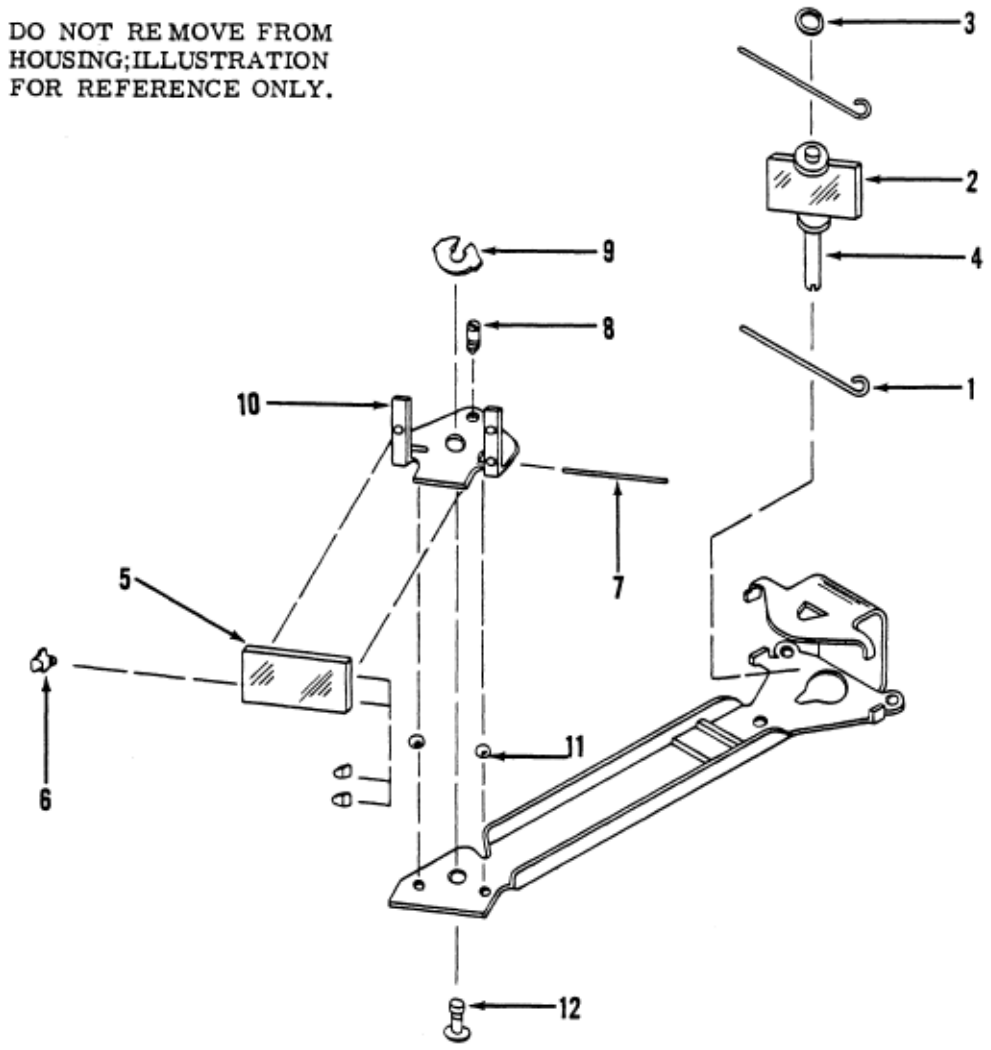


Figure 5B. BASE COMPLETE

Figure and Index No.		Part Number	1 2 3 4 5	Nomenclature	Qty.	
5B-		36158-G2		BASE COMPLETE	Ref.	
-1		36160	.	Spring - Mirror Shaft	2	
-2	*	34712-P1	.	Mirror - Opaque	Ref.	
-3	*	35473-P9	.	Washer - Flat 0.187 in. OD x 0.129 in. ID x 0.010 in. thk., brass	Ref.	
-4	*	36159-P1	.	Shaft - Opaque Mirror	Ref.	
-5		34711	.	Mirror - Transparent	1	
		Attaching Part				
-6		32416-P1	.	Retainer - Mirror	3	
		---***---				
-7		36235	.	Wire - Mount (3/4 in. lg.) 0.062 in. dia., steel	1	LP
-8		34709	.	Screw - Machine (special)	1	
-9		256-1L	.	Ring - Retaining, Waldes Kohinoor, Inc. p/n 5139-12, steel, black oxide	1	
-10		34710-P1	.	Mount - Transparent Mirror	1	
-11		300-3	.	Ball - Steel, 0.0625 in. dia.	2	
-12	*	34708	.	Stud - Transparent Mirror Mount	Ref.	
		No Number	.	Base Sub Assembly	Ref.	

* These items should not be removed and it is recommended that the rangefinder housing assembly be returned for exchange. See note on page 42.

GRAFLEX SERVICE DEPARTMENTS

These Departments are staffed with factory-trained workmen and equipped with proper facilities to service under warranty, adjust or repair all Graflex-made merchandise.

Much time will be saved if equipment is shipped by **Special Delivery.**

Be sure to supply complete instructions.

If unit comes within **warranty** period, **supply owner's name** and **date of purchase.**

Quotation estimate will be mailed promptly upon receipt and inspection of equipment, if requested. Return this promptly for speedy servicing of unit.

SHIP TO NEAREST ADDRESS

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3750 Monroe Avenue
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GRAFLEX, Inc.
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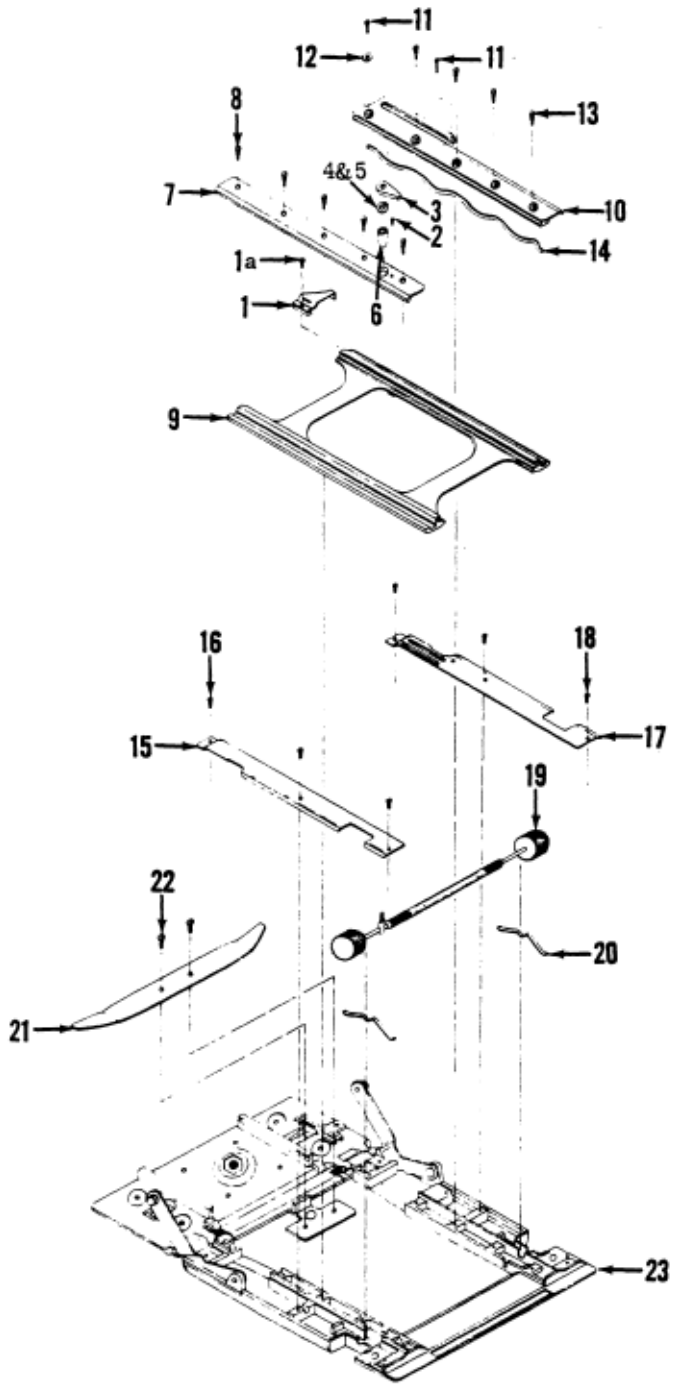


Figure 6. BED COMPLETE

Figure and Index No.	Part Number	1 2 3 4 5 Nomenclature	Qty.
6-	36035-G1	BED COMPLETE (Super Graphic)	Ref.
	36035-G3	BED COMPLETE (Super Speed Graphic)	Ref.
-1	36369-G1	. Bracket Assembly - Rangefinder Actuating (replaces 36059-P1, 34932 & 32432)	1
-1a	36370	. . Screw - Machine (special)	1
	36059-P1	. Bracket - Rangefinder Actuating (replace with 36369-G1)	Ref.
	Attaching Parts		
	34932	. Screw - Machine (special) available for replacement	2
	---***---		
	32432	. Plate - Actuating Bracket (replace with 36369-G1)	Ref.

Figure and Index No.	Part Number	1	2	3	4	5	Nomenclature	Qty.	
6-2	31246-P2	.					Screw - Machine (special)	1	
-3	36042-P1	.					Lever - Yoke Lock	1	
-4	30473-P11K	.					Washer - Flat, 0.281 in. OD x 0.177 in. ID x 0.010 in. thk., brass, oxide black	AR	
-5	33500-P72K	.					Washer - Flat, 0.281 in. OD x 0.177 in. ID x 0.005 in. thk., brass, oxide black	AR	
-6	36041	.					Sleeve - Yoke Lock	1	
-7	36036-P1	.					Guide - Yoke, Right	1	
	Attaching Part								
-8	116B2-5C	.					Screw - Machine, 5/16 in. lg., #2-56, pan head, slotted, brass, chrome plate	5	
	---***---								
-9	36058-P1	.					Yoke - Bed	1	
-10	36037-P1	.					Guide - Yoke, Left	1	
	Attaching Parts								
-11	116B2-5C	.					Screw - Machine, 5/16 in. lg., #2-56, pan head, slotted, brass, chrome plate	2	
-12	221-2L	.					Washer - Lock, internal tooth, for #2 screw, Shakeproof Cat. #1202, steel, black oxide	1	
-13	36189-P2	.					Screw - Machine (special)	4	
	---***---								
-14	36044-P1	.					Spring - Yoke	1	
-15	36046-P1	.					Cover - Bed, Right	1	
	Attaching Part								
-16	116B2-3C	.					Screw - Machine, 3/16 in. lg., #2-56, pan head, slotted, brass, chrome plate	3	
	---***---								
-17	36046-P2	.					Cover - Bed, Left	1	
	Attaching Part								
-18	116B2-3C	.					Screw - Machine, 3/16 in. lg., #2-56, pan head, slotted, brass, chrome plate	3	
	---***---								
-19	36035-G2	.					Pinion Assembly - Focusing	1	
	34111-P7	.	.				Insert - Leather	2	
	36039	.	.				Knob - Focusing	NP	NHA
	36040	.	.				Post - Yoke Lock	NP	NHA
	36038-P1	.	.				Pinion - Focusing	NP	NHA
-20	36259-P1	.					Spring - Focusing Pinion	2	
-21	36047-P1	.					Spring - Bed Brace	1	
	Attaching Part								
-22	106-5-3L	.					Screw - Machine, 3/16 in. lg., #5-40, oval, fillister head, slotted, steel, black oxide	2	
	---***---								
-23	36049-G1	.					Bed Assembly (Super Graphic)	1	
	36049-G4	.					Bed Assembly (Super Speed Graphic)	1	
	36049-G2	.	.				Hinge Assembly	1	
	36054	.	.	.			Socket - Tripod	NP	NHA
	36051-P1	.	.	.			Hinge - Bed	NP	NHA
	30172-P43K	.	.				Pin - Hinge, 1.343 in. lg., 0.0808 in. dia., phosphor bronze, oxide black	2	
	36052-P1	.	.				Spring - Right	1	
	36052-P2	.	.				Spring - Left	1	
	36049-G3	.	.				Bed Sub Assembly (Super Graphic)	1	
	36049-G5	.	.				Bed Sub Assembly (Super Speed Graphic)	1	
	36356-G1	.	.	.			Cap Assembly - Bed (Super Graphic)	1	
	36212-P3	.	.	.	.		Plate - Name (Super Graphic)	1	
	36356-G2	.	.	.			Cap Assembly - Bed (Super Speed Graphic)	1	
	36212-P4	.	.	.	.		Plate - Name (Super Speed Graphic)	1	
	36048-P1	.	.	.			Covering - Bed	1	
	36053	.	.	.			Rivet - Bed Brace	1	
	36055-G1	.	.	.			Brace Assembly - Right	1	
	36055-G2	.	.	.			Brace Assembly - Left	1	
	36050-P1	.	.	.			Bed	NP	NHA

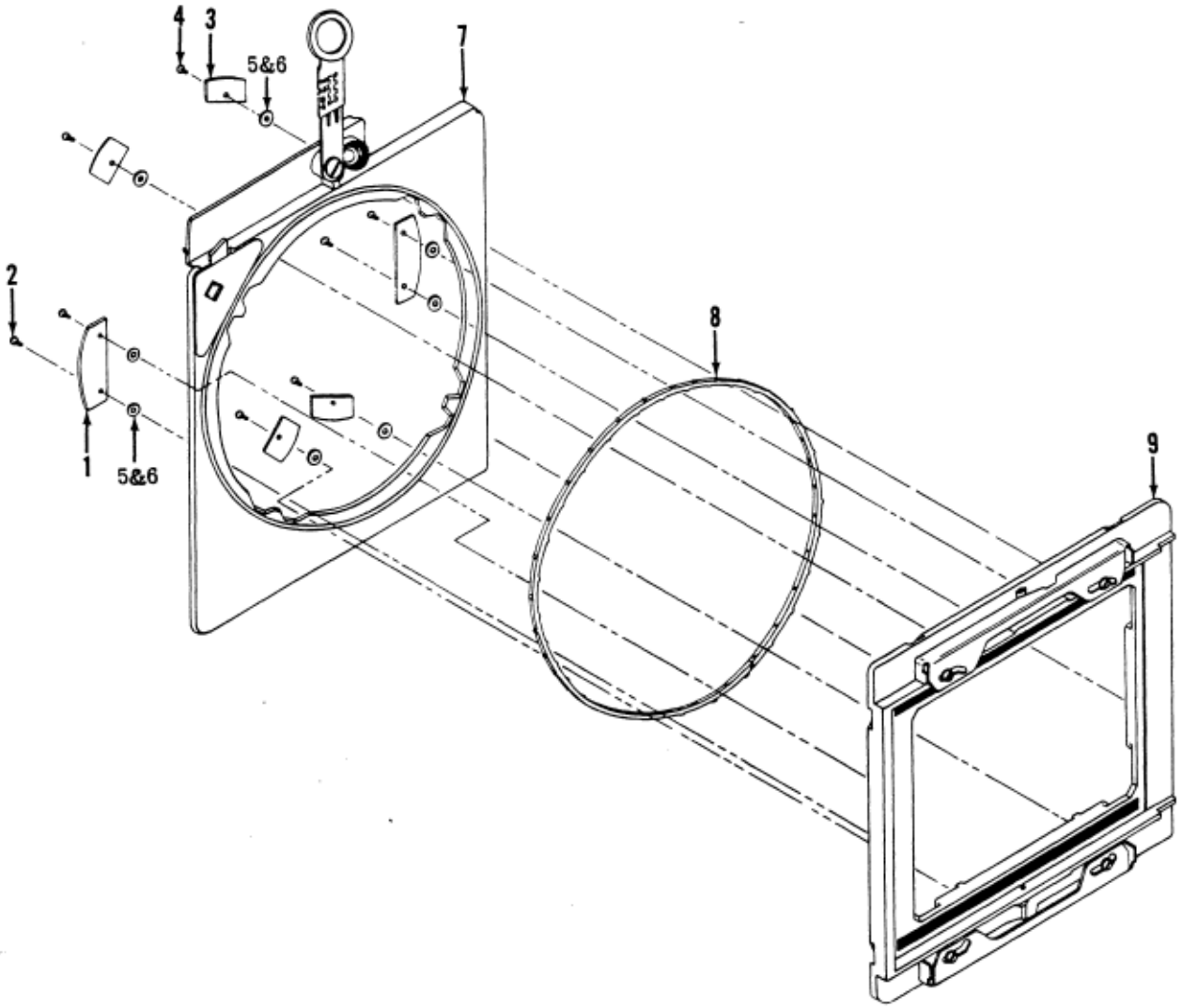


Figure 7. BACK ASSEMBLY

Figure and Index No.	Part Number	1 2 3 4 5	Nomenclature	Qty.
7-	36060-G1		BACK ASSEMBLY	Ref.
-1	36062-P1	.	Retainer - Back (large)	2
	Attaching Part			
-2	110-2-2B	.	Screw - Machine, 1/8 in. lg., #2-56, straight side binding head, slotted, steel, black cadmium plate	4
	---***---			
-3	36063-P1	.	Retainer - Back (small)	4
	Attaching Part			
-4	110-2-2B	.	Screw - Machine, 1/8 in. lg., #2-56, straight side binding head, slotted, steel, black cadmium plate	4
	---***---			
-5	30473-P28K	.	Washer - Flat, 0.250 in. OD x 0.099 in. ID x 0.012 in. thk., brass, oxide black	AR
-6	30473-P42K	.	Washer - Flat, 0.250 in. OD x 0.099 in. ID x 0.016 in. thk., brass, oxide black	AR
-7	36068-G2	.	Frame Complete - Back, Stationary, (Figure 7A) replaces 36068-G2X	1
	36068-G2X	.	Frame Complete - Back, Stationary, (Figure 7B) replaced by 36068-G2	Ref.
-8	36061	.	Ring - Revolving	1
-9	36060-G2	.	Frame Complete - Revolving, (Figure 7C)	1

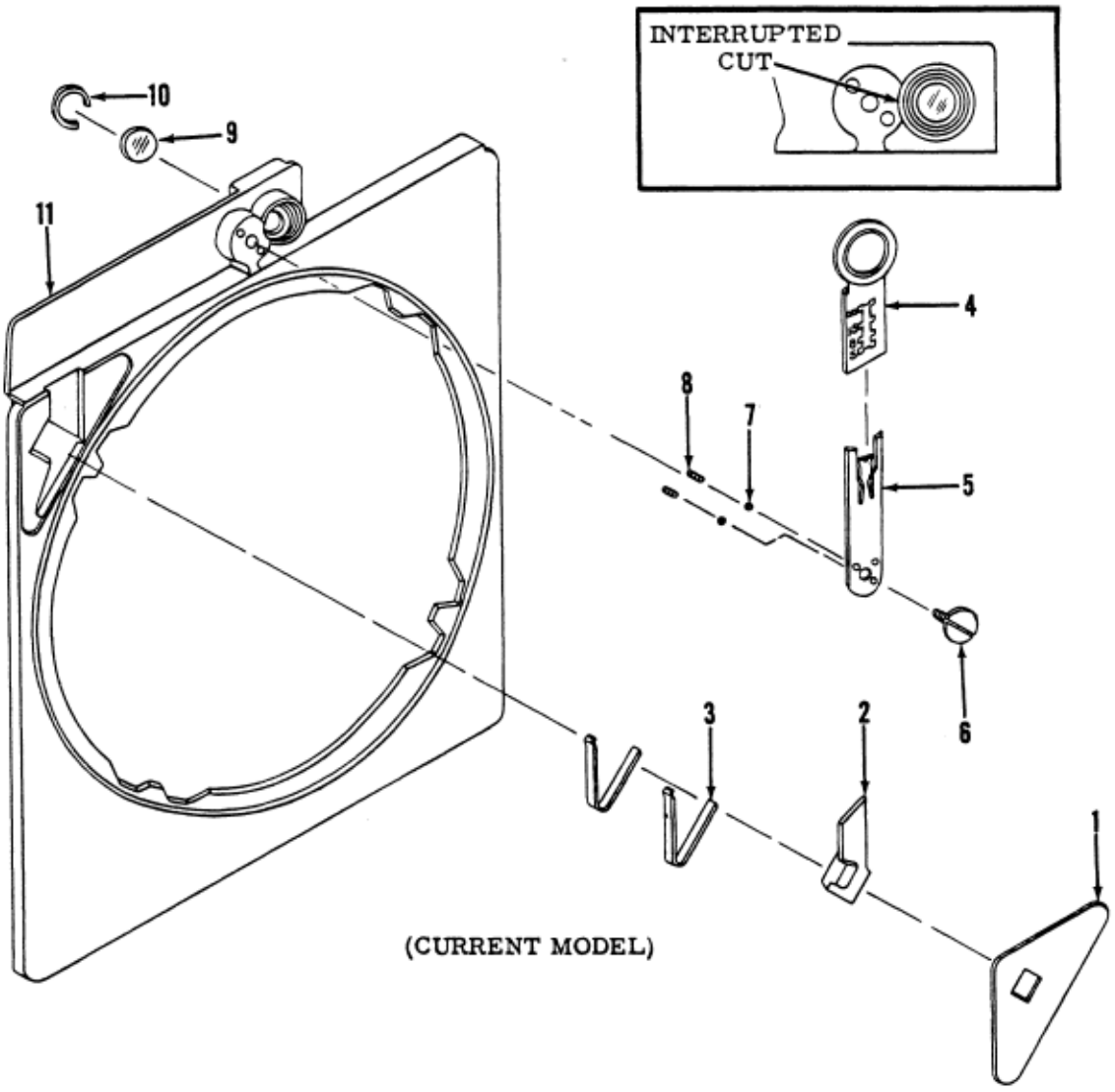


Figure 7A. STATIONARY BACK FRAME COMPLETE

Figure and Index No.	Part Number	1 2 3 4 5	Nomenclature	Qty.
7A-	36068-G2		FRAME COMPLETE - BACK, STATIONARY	Ref.
-1	36072-P1	.	Cover - Release Button	1
-2	36070-P1	.	Button - Release	1
-3	36071-P1	.	Spring - Button	2
-4	36172-G1	.	Peepsight Assembly	1
-5	36247-P1	.	Carrier - Peepsight	1
	Attaching Part			
-6	36249	.	Screw - Machine (special)	1
	---***---			
-7	300-4	.	Ball - Steel, 0.9375 in. dia.	2
-8	36258	.	Spring - Carrier	2
-9	34770	.	Window - Rear	1
	Attaching Part			
-10	30442-P11K	.	Ring - Retaining	1
	---***---			
-11	36068-G1	.	Frame Assembly - Stationary	1

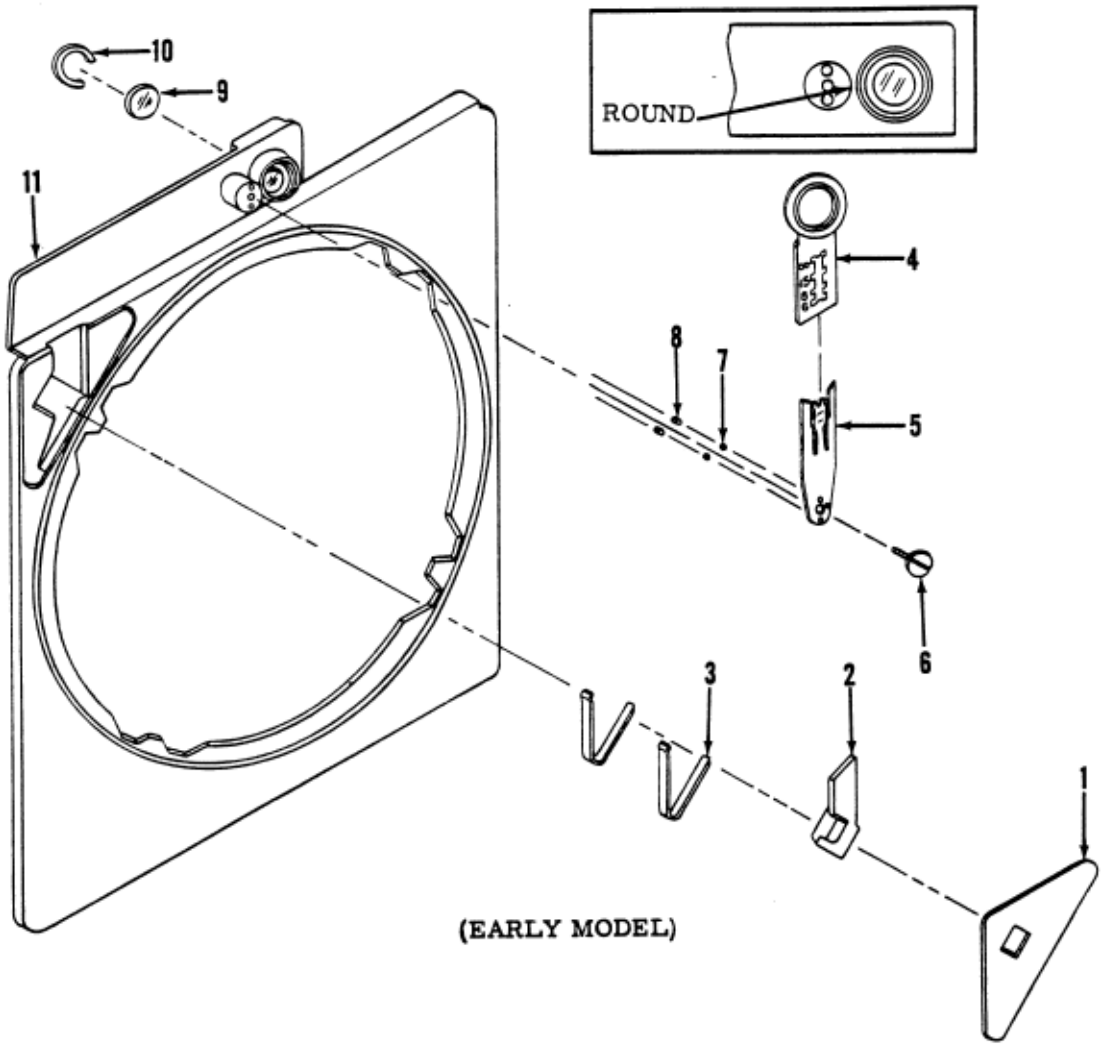


Figure 7B. STATIONARY BACK FRAME COMPLETE

Figure and Index No.		Part Number	1 2 3 4 5	Nomenclature	Qty.
7B-		36068-G2X		FRAME COMPLETE - BACK, STATIONARY (replace with 36068-G2)	R
-1		36072-P1	.	Cover - Release Button	1
-2		36070-P1	.	Button - Release	1
-3		36071-P1	.	Spring - Button	2
-4		36172-G1	.	Peepsight Assembly	1
-5	*	36171-P1	.	Carrier - Peepsight	1
		Attaching Part			
-6	*	36200	.	Screw - Machine (special)	1
		---***---			
-7	*	300-3	.	Ball - Steel, 0.0625 in. dia.	2
-8	*	22193	.	Spring - Carrier	2
-9		34770	.	Window - Rear	1
		Attaching Part			
-10		30442-P11K	.	Ring - Retaining	1
		---***---			
-11		36068-G1X	.	Frame Assembly - Stationary	Ref.

* These items are not interchangeable with current stationary frame assembly 36068-G1.

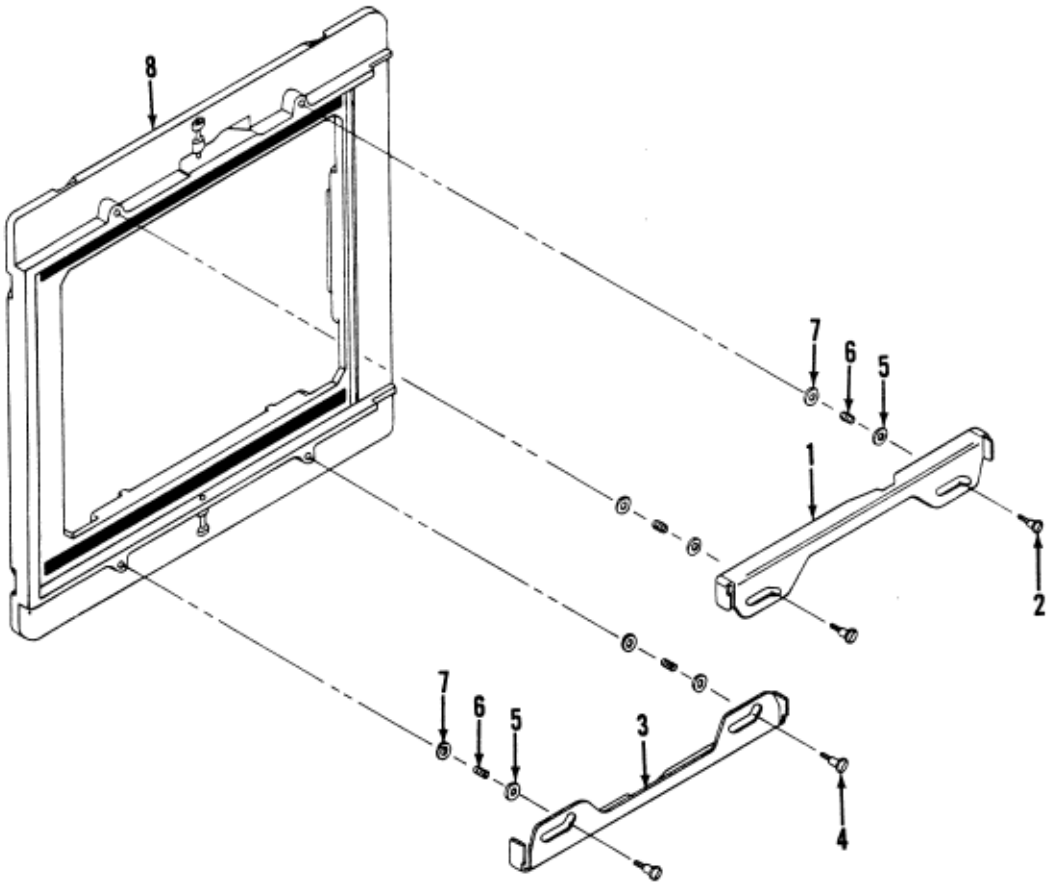
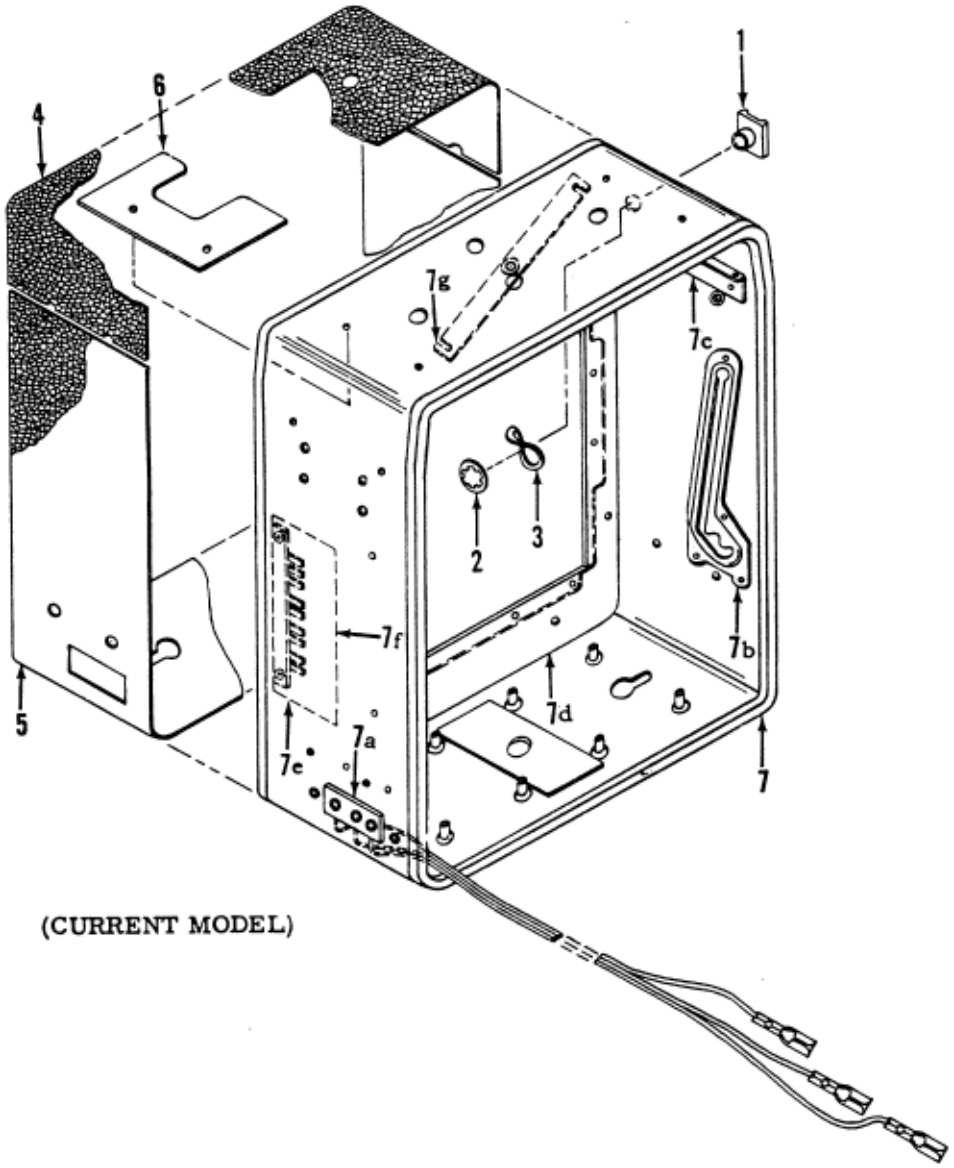


Figure 7C. REVOLVING FRAME COMPLETE

Figure and Index No.	Part Number	1	2	3	4	5	Nomenclature	Qty.
7C-	36060-G2						FRAME COMPLETE - REVOLVING	Ref.
-1	36066-P1		.				Lock - Slide, Upper	1
	Attaching Part							
-2	36067-P1		.				Screw - Machine (special)	2
	---***---							
-3	36066-P2		.				Lock - Slide, Lower	1
	Attaching Part							
-4	36067-P1		.				Screw - Machine (special)	2
	---***---							
-5	30473-P72H		.				Washer - Flat, 0.250 in. OD x 0.128 in. ID x 0.005 in. thk., brass, nickel plate	4
-6	36065		.				Spring - Slide Lock	4
-7	30473-P28H		.				Washer - Flat, 0.250 in. OD x 0.099 in. ID x 0.012 in. thk., brass, nickel plate	4
-8	36350-G1		.				Frame Assembly	1
	31722-P3		.	.			Strip - Light Seal	2



(CURRENT MODEL)

Figure 8. BODY COMPLETE

Figure and Index No.	Part Number	1 2 3 4 5	Nomenclature	Qty.
8-	36020-G2		BODY COMPLETE (over serial no. 646124)	Ref.
-1	36024-P1	.	Guard - Shutter Release Button	1
	Attaching Parts			
-2	254-3A	.	Ring - Retaining, Waldes-Kohinoor, Inc. p/n 5105-31, steel, cadmium plate	1
-3	224-4A	.	Washer - Spring, Shakeproof p/n 3502-20-22, steel, cadmium plate	1
	---***---			
-4	36022-P1	.	Covering - Upper	1
-5	36022-P2	.	Covering - Lower	1
-6	36204	.	Insulator - Battery	1
-7	36025-G2	.	Body Assembly	1
-7a	36233-G2	. .	Receptacle Assembly	1
	Attaching Part			
	30363-P12K	. .	Rivet - Hollow, 0.125 in. lg., 0.123 in. dia., round head, brass, oxide black	2
	---***---			

Figure and Index No.	Part Number	1	2	3	4	5	Nomenclature	Qty.	
	36028-P1	.	.				Plate - Bed Brace, Right	1	
	Attaching Part								
	30363-P27K	.	.				Rivet - Hollow, 0.156 in. lg., 0.063 in. dia., round head, brass, oxide black	4	
	---***---								
8-7b	36028-P2	.	.				Plate - Bed Brace, Left	1	
	Attaching Part								
	30363-P27K	.	.				Rivet - Hollow, 0.156 in. lg., 0.063 in. dia., round head, brass, oxide black	4	
	---***---								
-7c	36029-P1	.	.				Support - Rangefinder Housing	2	
	Attaching Part								
	30363-P27K	.	.				Rivet - Hollow, 0.156 in. lg., 0.063 in. dia., round head, brass, oxide black	4	
	---***---								
-7d	36032-G2	.	.				Partition Assembly	1	
	36034-P1	.	.	.			Seal - Light	1	
	36033-P2	.	.	.			Partition	NP	NHA
-7e	36322-G1	.	.				Board Assembly - Terminal	1	
	Attaching Parts								
	30363-P23K	.	.				Rivet - Hollow, 0.281 in. lg., 0.062 in. dia., round head, brass, oxide black	2	
	33500-P6	.	.				Washer - Flat, 0.187 in. OD x 0.071 in. ID x 0.016 in. thk., brass	2	
	35473-P24	.	.				Washer - Flat, 0.187 in. OD x 0.070 in. ID x 0.032 in. thk., phenolic	4	
	---***---								
-7f	36324	.	.				Insulator	1	
-7g	36030-P1	.	.				Lock - Focusing Scale	1	
	Attaching Part								
	36031	.	.				Stud - Focusing Scale Lock	1	
	---***---								
	248-6-2	.	.				Fastener - Pem (press fit)	NP	NHA
	30915-P2	.	.				Bushing - Bed Hinge (press fit)	NP	NHA
	36026-P1	.	.				Body - Camera	NP	NHA

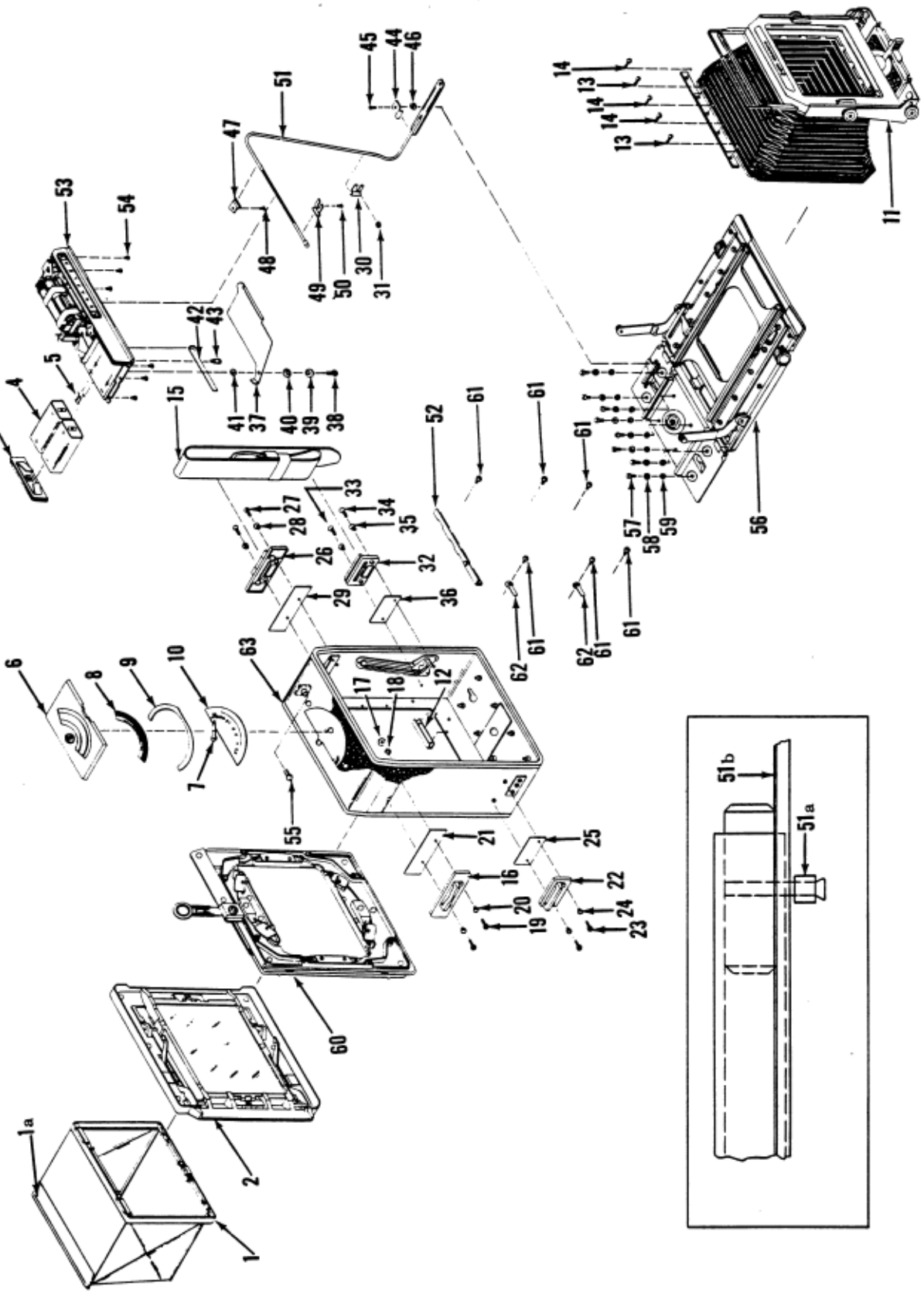


Figure 9. CAMERA BASIC (up to serial No. 646124)

Figure and Index No.	Part Number	1 1 2 3 4 5	Nomenclature	Qty.	
9-	36000-G1		CAMERA BASIC - SUPER GRAPHIC (up to serial no. 646124) . .	Ref.	
-1	36082-G1	.	Hood Assembly	1	
-1a	36087-P1	.	. Clip - Dark Slide	1	
-2	36073-G1	.	Frame Assembly - Focusing (Figure 3)	1	
-3	36198-G1	.	Cover Assembly - Battery Compartment	1	
-4	33111	.	Battery, 22-1/2v., flat type, Eveready Cat. #412 or equal . .	2	LP
-5	36328-P1	.	Clip - Retainer	1	
-6	36176-G1	.	Cover Assembly - Focusing Scale	1	
-7	36002	.	Indicator - Focusing Scale	1	
-8	36001-P1	.	Guide - Exposure	1	
-9	36197-P1	.	Spring - Exposure Guide	1	
-10	36213-P1	.	Plate - Focusing Scale	1	
-11	36096-G1	.	Standard Complete - Front (Figure 10).	1	
	Attaching Parts				
-12	32459	.	Clip - Bellows	6	
-13	110-6-5B	.	Screw - Machine, 5/16 in. lg., #6-32, straight side binding head, slotted, steel, black cadmium plate	2	
-14	31089-P8	.	Screw - Machine (special)	3	
	---***---				
-15	36006-P1	.	Handle	1	
-16	36021-P1	.	Bracket - Handle, Upper (right side)	1	
	Attaching Parts				
-17	200-4HL	.	Nut - Machine, #4 hex., steel, black oxide.	2	
-18	221-4L	.	Washer - Lock, internal tooth, for #4 screw, Shakeproof Cat. #1204, steel, black oxide	2	
-19	100-4R6E	.	Screw - Machine, 3/8 in. lg., #4-40, flat head, Phillips Drive, steel, chrome plate	2	
-20	36231	.	Washer - Insulating, Parker-Kalon, #106, nylon.	1	
	---***---				
-21	36227-P1	.	Insulator - Handle Bracket.	1	
-22	36021-P2	.	Bracket - Handle, Lower (right side).	1	
	Attaching Parts				
-23	100-4R5E	.	Screw - Machine, 5/16 in. lg., #4-40, flat head, Phillips Drive, steel, chrome Plate	2	
-24	36231	.	Washer - Insulating, Parker-Kalon, #106, nylon.	2	
	---***---				
-25	36227-P2	.	Insulator - Handle Bracket.	1	
-26	36021-P1	.	Bracket - Handle, Upper (left side)	1	
	Attaching Parts				
-27	100-4R5E	.	Screw - Machine, 5/16 in. lg., #4-40, flat head, Phillips Drive, steel, chrome plate	2	
-28	36231	.	Washer - Insulating, Parker - Kalon, #106, nylon.	2	
	---***---				
-29	36227-P1	.	Insulator - Handle Bracket.	1	
-30	36193-P2	.	Clamp	1.	
	Attaching Part				
-31	200-4HL	.	Nut - Machine, #4 hex., steel, black oxide.	1	
	---***---				
-32	36021-P2	.	Bracket - Handle, Lower (left side).	1	
	Attaching Parts				
-33	100-4R6E	.	Screw - Machine, 3/8 in. lg., #4-40, flat head, Phillips Drive, steel, chrome plate	1	
-34	100-4R5E	.	Screw - Machine, 5/16 in. lg., #4-40, flat head, Phillips Drive, steel, chrome plate	1	
-35	36231	.	Washer - Insulating, Parker-Kalon, #106, nylon	2	
	---***---				
-36	36227-P2	.	Insulator - Handle Bracket.	1	
-37	36092-P1	.	Cover - Cam	1	
	Attaching Parts				
-38	110-2-5B	.	Screw - Machine, 5/16 in. lg., #2-56, straight side binding head, slotted, steel, black cadmium plate	1	
-39	36244	.	Collar - Cam Cover	1	
-40	30540-P2	.	Washer - Spring.	1	
	---***---				

Figure and Index No.	Part Number	1	2	3	4	5	Nomenclature	Qty.
9-41	30473-P25L	.					Washer - Flat, 0.281 in. OD x 0.093 in. ID x 0.012 in. thk. steel, black oxide	1
-42	36130	.					Spring - Cam Cover	1
-43	36128	.					Stud - Cam Cover	1
-44	36193-P1	.					Clamp	1
	Attaching Parts							
-45	102B3-4K	.					Screw - Machine, 1/4 in. lg., #3-48, round head, slotted, brass, oxide black	1
-46	33500-P36	.					Washer - Flat, 0.312 in. OD x 0.128 in. ID x 0.062 in. thk., phenolic	1
	---***---							
-47	34723-P2	.					Clamp	1
	Attaching Part							
-48	102-3-2B	.					Screw - Machine, 1/8 in. lg., #3-48, round head, slotted, steel, black cadmium plate	1
	---***---							
-49	36193-P2	.					Clamp	1
	Attaching Part							
-50	102-3-2B	.					Screw - Machine, 1/8 in. lg., #3-48, round head, slotted, steel, black cadmium plate	1
	---***---							
-51	34739-G2	.					Tube Assembly - Rangefinder	1
-51a	36009	.	.				Collar - Pin	1
-51b	36195	.	.				Slide - Rangefinder Actuating	1
-52	36246-P1	.					Insulator - Junction	1
-53	36145-G1	.					Housing Complete - Rangefinder (Figure 11)	1
	Attaching Part							
-54	102-2-2B	.					Screw - Machine, 1/8 in. lg., #2-56, round head, slotted, steel, black cadmium plate	6
	---***---							
-55	36023-P1	.					Button - Shutter Release (0.547 in. lg.)	1
	36023-P2	.					Button - Shutter Release (0.501 in. lg.)	1
	36023-P3	.					Button - Shutter Release (0.591 in. lg.)	1
-56	36035-G1	.					Bed - Complete (Figure 6)	1
	Attaching Parts							
-57	116-2-4B	.					Screw - Machine, 1/4 in. lg., #2-56, pan head, slotted, steel, black cadmium plate	8
-58	221-2L	.					Washer - Lock, internal tooth, for #2 Screw, Shakeproof Cat. #1202, steel, black oxide	8
-59	30473-P44K	.					Washer - Flat, 0.250 in. OD x 0.099 in. ID x 0.025 in. thk., brass, oxide black	8
	---***---							
-60	36060-G1	.					Back Assembly (Figure 7)	1
	Attaching Parts							
-61	110-6-3B	.					Screw - Machine, 3/16 in. lg., #6-32, straight side binding head, slotted, steel, black cadmium plate	6
-62	36219	.					Clip - Wire	2
	---***---							
-63	36020-G1	.					Body - Complete (Figure 12)	1

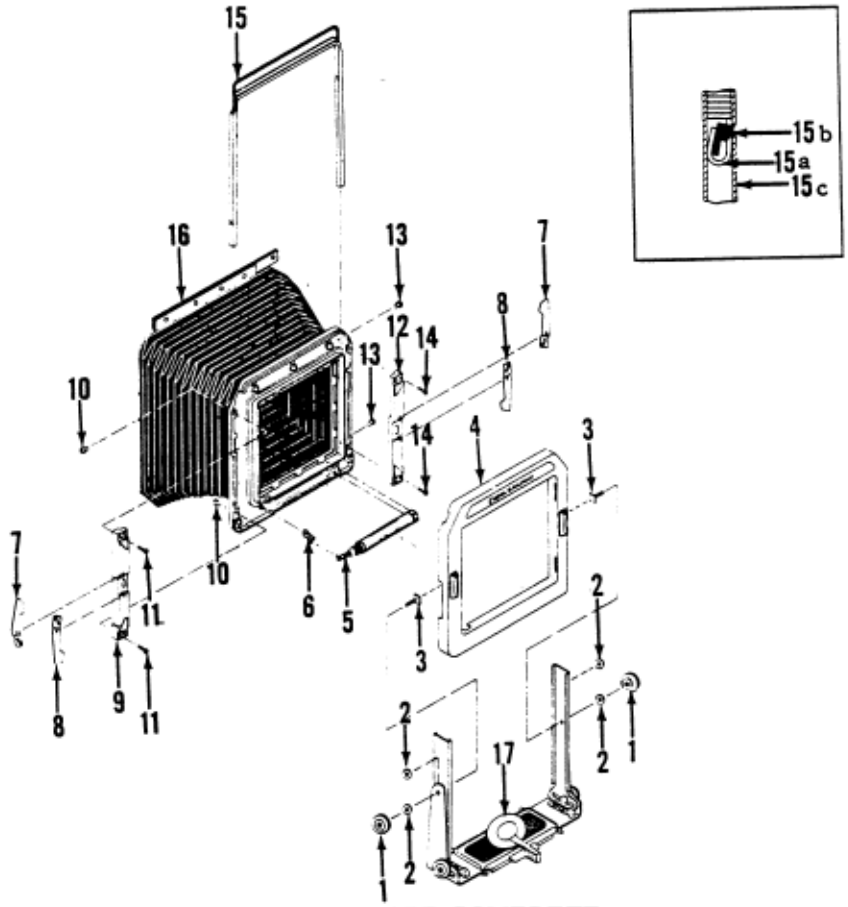


Figure 10. FRONT STANDARD COMPLETE

Figure and Index No.	Part Number	1 2 3 4 5	Nomenclature	Qty.
10-	36096-G1		STANDARD COMPLETE - FRONT (up to serial no. 646124) . . .	Ref.
-1	36105-P1	.	Knob - Locking	2
-2	30473-P6	.	Washer - Flat, 0.312 in. OD x 0.128 in. ID x 0.015 in. thk., fiber	4
-3	36127	.	Stud - Front Frame Locking.	2
-4	36117-G1	.	Frame Assembly - Front.	1
	36212-P1	.	. Plate - Name.	1
-5	36133-G1	.	Solenoid Assembly (Figure 4A)	1
-6	36123-P1	.	Crank - Shutter Trip.	1
-7	36124-P1	.	Lock - Upper.	2
-8	36124-P2	.	Lock - Lower	2
-9	36113-G1	.	Stile Assembly - Right	1
	Attaching Parts			
-10	36043	.	Nut - Machine (special)	2
-11	110B2-5K	.	Screw - Machine, 5/16 in. lg., #2-56, straight side binding head, slotted, brass, oxide black	2
	---***---			
-12	36113-G2	.	Stile Assembly - Left	1
	Attaching Parts			
-13	36043	.	Nut - Machine (special)	2
-14	110B2-5K	.	Screw - Machine, 5/16 in. lg., #2-56, straight side binding head, slotted, brass, oxide black	2
	---***---			
-15	34848-G3	.	Finder Complete	1
-15a	34785-G1	.	. Finder Assembly	1
-15b	34787	.	. Stop - Finder.	2
-15c	34795	.	. Frame - Finder	1
-16	36125-G1	.	Bellows Complete (Figure 10A).	1
-17	36178-G1	.	Standard Assembly - Front (Figure 4C)	1

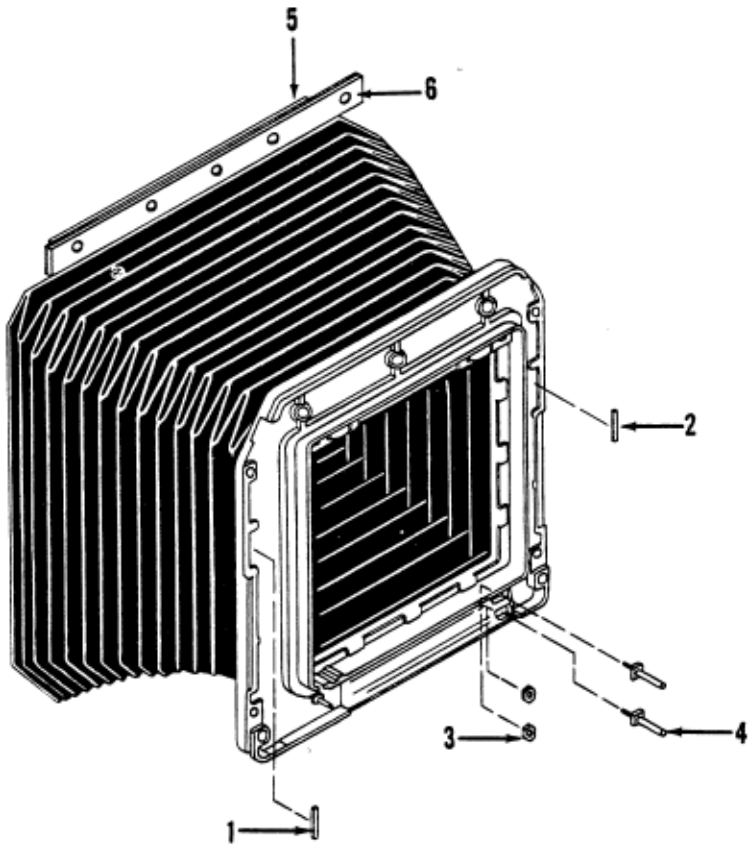


Figure 10A. BELLOWS COMPLETE

Figure and Index No.	Part Number	1 2 3 4 5	Nomenclature	Qty.
10A-	36125-G1		BELLOWS COMPLETE (up to serial no. 646124)	Ref.
-1	36337-P1	.	Shim - Right	1
-2	36337-P2	.	Shim - Left	1
-3	200B1HR	.	Nut - Machine, #1 hex., brass, tin plate	2
-4	36121-P1	.	Contact - Solenoid	2
	No Number	.	Insulator and Spring Sub Assembly (cemented)	Ref.
-5	36211-P2	. .	Insulator	1
-6	36230-P1	. .	Spring	1
	No Number	.	Bellows and Base Assembly	NP NHA

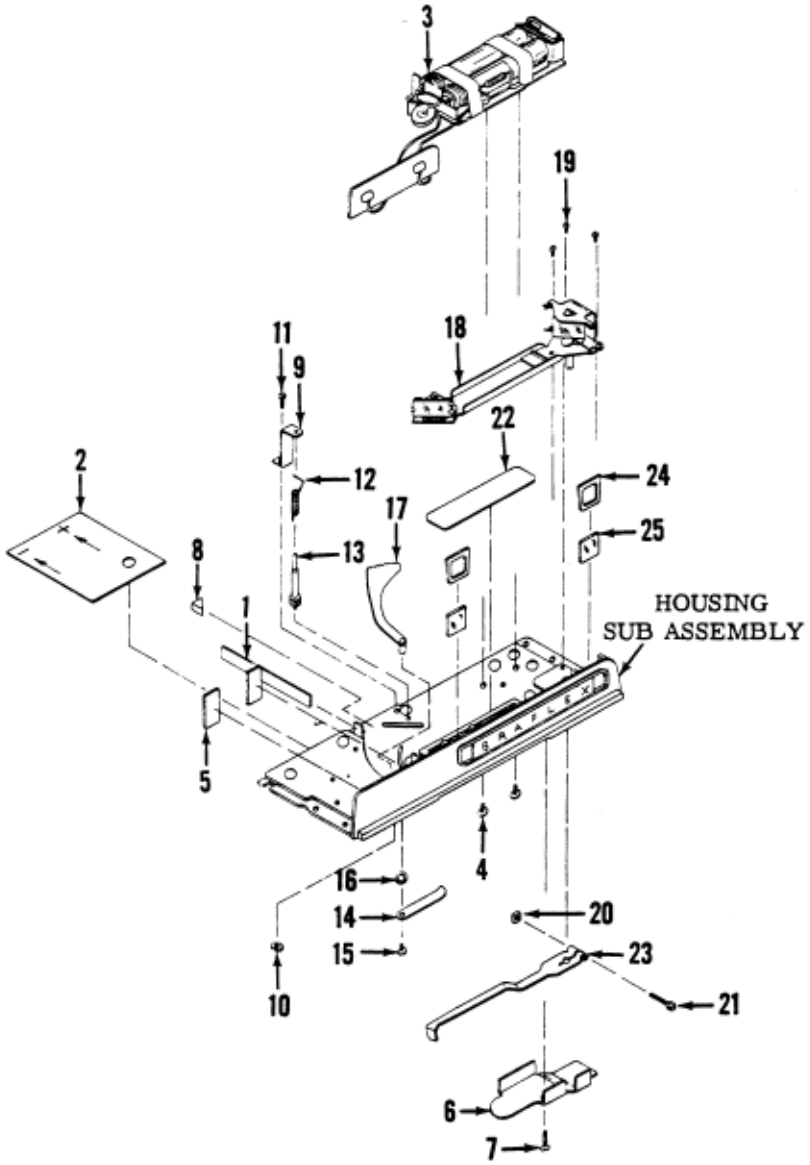


Figure 11. RANGEFINDER HOUSING COMPLETE

Figure and Index No.	Part Number	1	2	3	4	5	Nomenclature	Qty.
11-	36145-G1						HOUSING COMPLETE - RANGEFINDER (up to serial no. 646124)	Ref.
-1	36229		.				Partition - Battery	1
-2	36217		.				Guard (aluminum) replaces 36217X and 36335-P1	1
	36217X		.				Insulator (fiber) replaced by 36217	Ref.
	36335-P1		.				Insulator (fiber, plain) replaced by 36217	Ref.
-3	36207-G1		.				Plate Complete - Circuit (Figure 11A)	1
	Attaching Part							
-4	131-3-3L		.				Screw - Thread Cutting, 3/16 in. lg., #3, Shakeproof Type 23, binding (pan) head, slotted, steel, black oxide)	2
	---***---							
	36145-G3		.				Housing Assembly - Rangefinder	1
-5	36346		.	.			Insulator - Battery Contact Plate	2
-6	36245-P1		.	.			Shield - Rangefinder Arm	1
	Attaching Part							
-7	100B3-4K		.	.			Screw - Machine, 1/4 in. lg., #3-48, flat head, slotted, brass, oxide black	1
	---***---							

Figure and Index No.		Part Number	1	2	3	4	5	Nomenclature	Qty.
11-8		36010	.	.				Bumper - Sector	1
-9		36147-P1	.	.				Bracket - Pinion	1
		Attaching Parts							
-10		200B2HK	.	.				Nut - Machine, #2 hex., brass, oxide black	1
-11		116B2-3K	.	.				Screw - Machine, 3/16 in. lg., #2-56, pan head, slotted, brass, oxide black	1
		---***---							
-12		36149	.	.				Spring - Pinion	1
-13		36148-P2	.	.				Pinion (replaces 36148-P1)	1
		36148-P1	.	.				Pinion (replaced by 36148-P2)	Ref.
-14		36150-P1	.	.				Lever - Rangefinder	1
		Attaching Parts							
-15		102-2-2L	.	.				Screw - Machine, 1/8 in. lg., #2-56, round head, slotted, steel, black oxide	1
		---***---							
-16		221-2L	.	.				Washer - Lock, internal tooth, for a #2 screw, Shakeproof Cat. #1202, steel, black oxide	1
-17		36155-G1	.	.				Sector Assembly	1
-18	*	36158-G2	.	.				Base Complete (see Figure 5B for procurable items)	1
		Attaching Part							
-19	*	116B2-3K	.	.				Screw - Machine, 3/16 in. lg., #2-56, pan head, slotted, brass, oxide black	3
		---***---							
-20	*	200-3SL	.	.				Nut - Machine, #3, square, steel, black oxide	1
-21	*	36152	.	.				Screw - Machine (special)	1
-22	*	36153-P1	.	.				Cover - Rangefinder Housing	1
-23	*	36169-P1	.	.				Arm - Rangefinder	1
-24		36205	.	.				Retainer - Window	2
-25		36154	.	.				Window - Rangefinder	2
		No Number	.	.				Housing Sub Assembly - Rangefinder	Ref.

* These items should not be removed and it is recommended that the rangefinder housing assembly be returned for exchange. See note below.

NOTE: To insure trouble free operation, remove indices 1, 2, 3 & 4 and return rangefinder housing assembly to the nearest Graflex Service Department. An alternate rangefinder housing assembly (at nominal charge), with critical mirror and lever adjustments accomplished, will be returned. A focusing scale indicator (Figure 9 - 7) and guard (Figure 11 - 2) will also be furnished for installation. Use Cat. #9472 in correspondence when using the exchange program for rangefinder housing assembly.

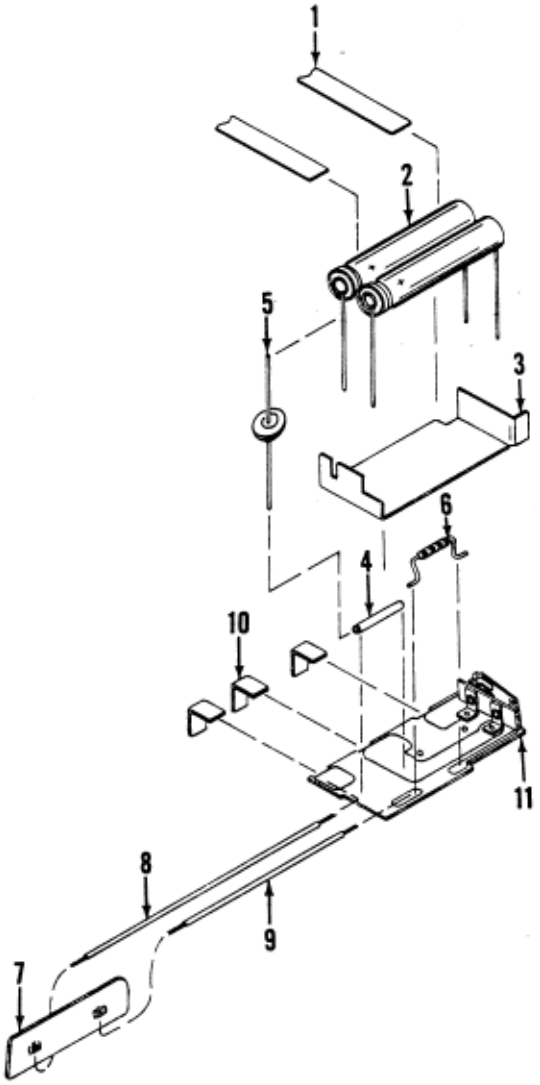


Figure 11A. CIRCUIT PLATE COMPLETE

Figure and Index No.	Part Number	1 2 3 4 5	Nomenclature	Qty.	
11A-	36207-G1		PLATE COMPLETE - CIRCUIT (up to serial no. 646124).	Ref.	
-1	35858-P18	.	Tape (5/16 in. wide) black Mylar, 3M Scotch Brand Cat. #850	AR	LP
-2	36167-P1	.	Capacitor	2	
-3	36203	.	Insulator.	1	
-4	37238-P9	.	Tubing (3/4 in. lg.) #20, black extruded vinyl.	1	LP
-5	36011	.	Diode, International Rectifier Corp. p/n 2E4	1	
-6	402-27-2-2	.	Resistor, 1/2 w., 2700 ohms	1	
-7	36208-G1	.	Plate Assembly - Battery Contact.	1	
-8	36207-P6	.	Wire (4-1/2 in. lg.) No. 24 AWG, black insulation.	1	LP
-9	36207-P7	.	Wire (3-1/4 in. lg.) No. 24 AWG, black insulation.	1	LP
-10	36166	.	Terminal	3	
-11	36162-G1	.	Plate Assembly - Circuit (includes switch)	1	

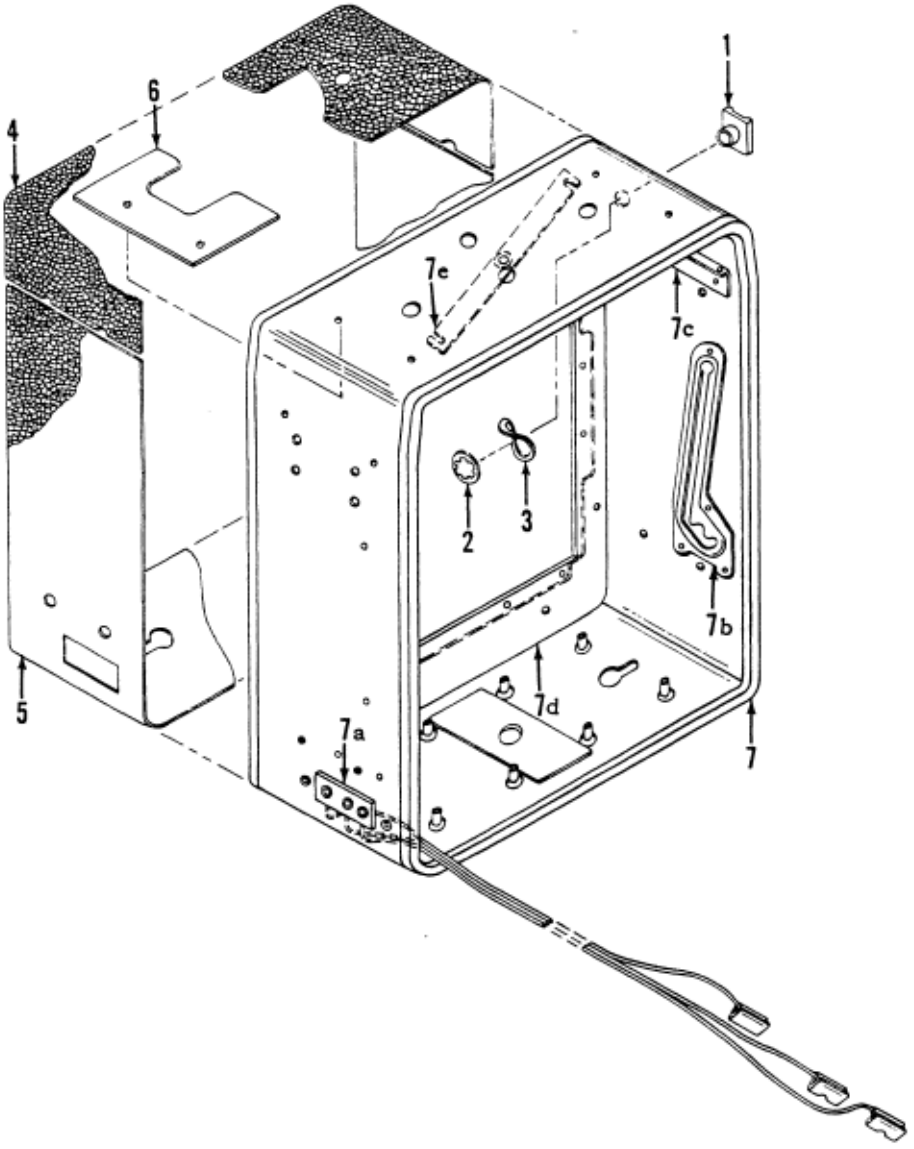


Figure 12. BODY COMPLETE

Figure and Index No.	Part Number	1 2 3 4 5	Nomenclature	Qty.
12-	36020-G1		BODY COMPLETE (up to serial no. 646124)	Ref.
-1	36024-P1	.	Guard - Shutter Release Button.	1
	Attaching Parts			
-2	254-3A	.	Ring - Retaining, Waldes-Kohinoor, Inc. p/n 5105-31, steel, cadmium plate	1
-3	224-4A	.	Washer - Spring, Shakeproof p/n 3502-20-22, steel, cadmium plate	1
	---***---			
-4	36022-P1	.	Covering - Upper	1
-5	36022-P2	.	Covering - Lower.	1
-6	36204	.	Insulator - Battery	1
-7	36025-G1	.	Body Assembly	1
-7a	36233-G1	. .	Receptacle Assembly	1
	Attaching Part			
	30363-P12K	. .	Rivet - Hollow, 0.125 in. lg., 0.123 in. dia., round head, brass, oxide black	2
	---***---			

Figure and Index No.	Part Number	1	2	3	4	5	Nomenclature	Qty.	
	36028-P1	.	.				Plate - Bed Brace, Right.	1	
	Attaching Part								
	30363-P27K	.	.				Rivet - Hollow, 0.156 in. lg., 0.063 in. dia., round head, brass, oxide black	4	
	---***---								
12-7b	36028-P2	.	.				Plate - Bed Brace, Left	1	
	Attaching Part								
	30363-P27K	.	.				Rivet - Hollow, 0.156 in. lg., 0.063 in. dia., round head, brass, oxide black	4	
	---***---								
-7c	36029-P1	.	.				Support - Rangefinder Housing	2	
	Attaching Part								
	30363-P27K	.	.				Rivet - Hollow, 0.156 in. lg., 0.063 in. dia., round head, brass, oxide black	4	
	---***---								
-7d	36032-G1	.	.				Partition Assembly.	1	
	36034-P1	.	.	.			Seal - Light.	1	
	36033-P1	.	.	.			Partition	NP	NHA
-7e	36030-P1	.	.				Lock - Focusing Scale.	1	
	Attaching Part								
	36031	.	.				Stud - Focusing Scale Lock	1	
	---***---								
	30915-P2	.	.				Bushing - Bed Hinge (press fit).	NP	NHA
	36026-P1	.	.				Body - Camera	NP	NHA